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ABSTRACT

Centralized control of budgets and programs, a growing consumerism among students, and collective bargaining are among the issues addressed in a Florida statewide conference on institutional research. papers and reports include: the keynote address; a legislative workshop; a collective bargaining panel; The New College Story as Told by 103 Alumni (Day E. Glasser); The Placement Study Problem (Norris Miner); Planning Community College General Education Programs Through the Delphi Technique (Virginia Lee Scigliano); Funding and Control: Fact or Illusion (Pauline Masterson); Assessing Institutional Change: Decision Making Tools (John E. Bailey III); Issues and Decisions Facing Institutional Researchers in Preparing for Lifelong Learning (Charles J. Hensen); Degree Program Inventories, Program Review and Decision Making in Academic Planning (G. Emerson Tully); A Response to the Office of Civil Rights: Yes, We'll Comply: With What Criteria? (Gary B. Lott, David C. Montgomery); Decision Making in Graduate Admissions Policies in the Florida State University System: A Critical Review (Joan Gallini); Special Programs for Special Students (Sue M. Legg, Jeaninne N. Webb); The Validity of the ACT Assessment for a Shift in Decision Making (James Maxey); Who's Rating Whom These Days and Why? (Archie B. Johnston); Resources Ratios as a Means of Institutional Evaluation and Decision Making (Larry G. Jones); Roots: The Dilemma of Admission to Higher Education for Nonwhites in Florida (A.A. Abraham); To CLEP or not to CLEP: An Analysis of the Validity of the College Level Examination Program (Denise Strenglein); Helping Administrators Shift to Short-Range Enrollment Projections (Charles D. Salley). (MSE)

ED163848

THE SHIFT IN DECISION MAKING RESPONSIBILITIES:

institutional
research
response

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PROCEEDINGS OF THE
TENTH STATEWIDE CONFERENCE
ON INSTITUTIONAL RESEARCH
1977

HE010660

1977 FLORIDA STATEWIDE CONFERENCE
ON
INSTITUTIONAL RESEARCH

"The Shift in Decision Making Responsibilities: Institutional Research Response"

Caribbean Gulf Hotel
Clearwater Beach, Florida

June 15-17, 1977

Program Chair:
Donald J. Anderson
University of South Florida

Arrangements Chair:
Carol Rolf
University of South Florida

Local Host:
Edward B. Cottrell
St. Petersburg Junior College

Coordinator:
Fran Hill
University of South Florida

Preface

The theme of this year's conference was The Shift in Decision Making: Institutional Research Response.

Current trends in higher education in Florida indicate a shift to more centralized control of budgets and programs. Institutions also face a growing consumerism among students. Collective Bargaining changes the way decisions about assignments and salaries are made. At this conference we examined some of these shifts and their ramifications for institutional research. What data does management need to respond to Collective Bargaining? How well are we serving our students and what do we need to do to serve them better? These issues and more were addressed.

In addition, the "special" on our program was indeed special! Dr. G. Emerson (Pete) Tully gave the Keynote Address which covered most aspects of the ten-year development of the Florida Research Conference. Dr. Tully, of course, did not point out his own efforts in initiating and promoting this conference. In sincere appreciation for his many years of service "above and beyond. . ." he was "honored" by his colleagues with a Tully-roast with many references to Pete's special fondness for grits, cigars, football and good food--not necessarily in that order. Dr. Tully was then presented with a plaque commending him for outstanding service.

We would like to thank all the presentors, speakers, and moderators for their contribution to this conference.

I would also like to thank Fran Hill and Jan Henderson, Norris Miner and Jim Talmadge for their invaluable assistance in producing these Proceedings.

Denise Strenglein
Editor

TENTH ANNUAL FLORIDA STATEWIDE CONFERENCE ON INSTITUTIONAL RESEARCH

Wednesday p.m.

June 15

6:30-7:30	Registration	*Lobby*
7:00-8:00	Social pre-session (cash bar)	*Caribbean Room*

Thursday a.m.

June 16

8:00	Registration for those not pre-registered	*Lobby*
8:30-10:00	LEGISLATIVE WORKSHOP Chair: Craig Johnson Florida State University	*Garden Terrace Room*
10:00-10:15	BREAK	
10:15-11:15	Continue LEGISLATIVE WORKSHOP	
11:15-11:30	James Firnberg, Louisiana State University Past President Association for Institutional Research	
11:30-1:00	Break for lunch	*Your Choice*

Friday a.m.

June 17 — DOUBLE SESSIONS - Contributed Papers — *Garden & Terrace Rooms*

8:30-10:00 — **Terrace Session - A** — *Terrace Room*

Moderator: Rosanne Gmuer
Hillsborough Community College

Delphi: Through the Looking Glass of General Education
--Virginia Scigliano, Nova University

Funding and Control: Fact or Illusion
--Pauline Masterton, Department of Education

Assessing Institutional Change: Decision-Making Tools
--John E. Bailey III, Department of Education

Issues and Decisions Facing Institutional Researchers in Preparing for Lifelong Learning
--Charles J. Henson, Department of Education

8:30-10:00 — **Garden Session - B** — *Garden Room*

Moderator: Ilona Turrisi
Florida State University

Program Inventories, Program Reviews and Decision-Making in Academic Planning
--G. Emerson Tully, State University System

A Response to the Office of Civil Rights: Yes, We'll Comply; With What Criteria?
--Gary B. Lott & David C. Montgomery, State University System

Decision-Making in Graduate Admissions Policies in the State University System - A Critical Review
--Joan Gallini, State University System

Special Programs for Special Students
--Sue Legg & Jeaninne Webb, University of Florida

The Validity of the ACT Assessment for A Shift in Decision Making
--James Maxey, ACT Educational Program & Services

10:00-10:15 BREAK

10:15-12:00 — **Combined Session - C** — *Garden Terrace Room*

Moderator: Don Anderson
University of South Florida

Who's Rating Whom These Days and Why?
--Archie Johnston, Tallahassee Community College

Resource Ratios as a Means of Institutional Evaluation and Decision Making
--Larry G. Jones, University of Georgia

Roots: The Dilemma of Admission to Higher Education for Nonwhites in Florida
--A. A. Abraham, Florida A & M University

To CLEP or not to CLEP
--Denise Strenglein, University of South Florida

Helping Administrators Shift to Short-Range Enrollment Projections
--Charles D. Salley, Georgia State University

Thursday p.m.

1:00-1:15 WELCOME *Garden Terrace Room*

Norman L. Stephens, Jr.
Dean of College Systems
St. Petersburg Junior College

1:15-1:40 KEYNOTE ADDRESS

G. Emerson Tully - "Our Tenth Year"
Director of Educational Research
State University System of Florida

1:40-2:00 Special - Tully Toast

2:00-3:30 COLLECTIVE BARGAINING

University Panel
Chair: Ilona Turrisi
Florida State University

Participants:

Gregg Gleason, SUS - Management Viewpoint
Robert Whitaker, USF - Faculty Viewpoint
Louis Murray, SUS - Data Collection

Community College Panel
Chair: Archie Johnston
Tallahassee Community College

Participants:

Kaye Shannon, Hillsborough CC - Faculty Viewpoint
Carl Kuttler, St. Petersburg JC - Management View

Collective Bargaining Wrap-up

3:30-3:45 BREAK

3:45-5:00 STUDENT FOLLOW-UP

Moderator: Shirley Thomes
University of South Florida

Kay Glasser, New College
--New College Story as told by
One Hundred and Three Alumni
Norris Miner, Seminole Community College
--The Placement Study Problem
Matt Steele, University of Miami
--Studying Reasons for Transferring
Before Transfer Takes Place

6:30-7:30 Cocktail Hour (cash bar) *Palm Room Garden*

7:30-9:00 Banquet *Palm Room*

Introduction: James Vickrey
President-elect
University of Montevallo

Speaker: Hendrix Chandler
Corporate Secretary for Board of Regents
State University System of Florida

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Keynote Address
'77 Institutional Research Conference

G. Emerson Tully
Director of Research Services
Florida Board of Regents

People have personalities. Horses, dogs and cats--all animals that are tame enough for us to observe their modes of behavior--exhibit personalities. But have you ever heard of an organization having a personality? Well, I have and the organization that I am speaking of is this group--the Statewide Conference on Institutional Research. It has a personality all of its own. In this opening talk, I shall attempt to describe to you the dimensions of the personality of our series of conferences, which is now marking its 10th anniversary.

My remarks are based on the experience that I have gained during my close involvement with these conferences over the ten years that the meetings have been held. There are dozens of people in the audience who are as fully qualified to make this talk as I, in that they too have been closely associated with the conference since 1968. I ask these colleagues to keep tabs on what I am saying. I'll not speak long, and there will be time for added comments from persons who wish to give their notions about the purpose and nature--and if you will--the personality of these Florida research conferences.

When I studied the theory of personality development some years ago, I learned that persons exhibit changes in their personality brought about by events and experiences that impacted their lives. Wendell Johnson, in his well-known book People in Quandries written 30 years ago, quoted the Greek philosopher Heraclitus who said we never step in the same river twice. Not only does the river change, but we who step in the river change.

Even though we change from day to day, we tend to remain the same. When you see a friend of long standing after years of not having seen him (or her) you doubtlessly see him as the same person whom you once knew, but a person who has changed. There seems to be a core to our personalities that tends to remain constant even as we exhibit new and different traits.

Our conferences reveal this perservering trait. I have with me copies of the roster of persons who were present at the 1968 meeting held in Lakeland, the absolutely unforgettable meeting when our local host was Dick Burnette of Florida Southern College. (Dick, I might say, is a member of the Virginia Conference of Methodist Churches, and is not here today because of being in Virginia.) If you will look about you, you will see some of the persons--many of the persons--on the roster. Certainly from this vantage point, I see many persons who have through the years come to this meeting.

These conferences are reliable. You can always feel that being here was worthwhile. I have often heard at the closing session of past conferences such comments as--"Well, I certainly gained some information here that will help me in my work" and "I can always depend on learning something that not only gives me new insight into institutional research, but knowledge that has practical value and merit."

Certainly these conferences are original. What other organization in Florida gets along without a dues structure, a slate of elected officials, an overhead administrative staff, and a monthly newsletter that no one reads. Well, we do. The concept of having only a program chairperson, assisted by a local host chair and sometimes an arrangements chair, and a coordinator, as we have for this meeting, is its mainstay. Our past program chairmen--one day I am sure that we will name a woman as the program chair--are without exception well-known educators in Florida and nationwide. I applaud the efforts of these former chairpersons who have made these conferences possible. I applaud the efforts of Don Anderson, Carol Rolf, Ed Cottrell and Fran Hill who have brought this conference into being. I salute indeed the original approach used by this organization to select our leaders to bring us together each year.

There is a friendly side to this conference. Here one is among colleagues in whom he has a neighborly fondness and regard. Time and time again persons attending these conferences have told me that they feel more at home here than at any other professional meeting. They like being here, they like the fellowship, the opportunities to see old friends, to see the members of the families of their friends who come here year after year. Let us nourish and extend this friendly aspect of these conferences.

There is an energetic tone to these meetings. In contrast to other professional meetings, persons who come here attend the sessions and take part in the discussions. The Legislative workshop that we had earlier today illustrates this facet of our conferences. This workshop session, so artfully chaired this year by Craig Johnson, was truly an outstanding feature of the conferences. Let us not lose this energy; it is a force toward keeping our research efforts attuned to educational problems and issues that concern the public.

The conference sessions are designed to enable researchers to share their problems and the progress they have made toward resolving these problems. All sectors of higher education in Florida are here to take part in this sharing: the community colleges, the public universities, and private colleges and universities. How many other forums are there that bring together these sectors of postsecondary education to discuss research on educational problems that cut across private and public lines. Let us continue this sharing aspect of the conferences, as it is indeed a most salutary feature of our annual get-togethers.

The conferences are statewide in scope. At one time, the series of conferences was officially called the Florida Statewide Invitational Conference on Institutional Research. In recent years, the term invitational has been de-emphasized. It seemed that some persons who did not specifically receive a letter of invitation decided not to attend uninvited, even though they were attracted by the program. Program chairmen have sought to publicize the meeting by using longer and longer mailing lists, and making the point clear in announcements about the conferences that all educational researchers were welcomed. The conferences, one should say, are statewide and inviting, but are not invitational in the sense that every one should have a special letter of invitation.

Research is essentially an objective process. Throughout the years, the research projects reported in these meetings have been characterized by a high level of objectivity. In turn, the objective quality of the reports have ascribed objectivity to the meetings themselves. As researchers, we should have a measure of pride in that our meetings are forums for objective, meaningful, and productive reports.

At one time, when these conferences were mentioned, some people were likely to say "Whatszat?". Each year, when the conference proceedings are distributed, the meetings become more widely known. Indeed, we can say that the Statewide Conferences on Institutional Research are notable in the sense that educators generally know about the meetings. Our annual proceedings, with their reports of past research, are used by persons projecting and carrying forward continuing research, thus adding to the notable aspect of these conferences.

We are our own bosses. We select our program chairman each year from among our members (a member is defined as a person who has attended one or more of these conferences) in recognition of his efforts in institutional research. In every sense of the word, the conferences have autonomy.

The final characteristic of these conferences that I shall cite is that the meetings are to many of us just plain loveable. It's a good feeling to be here. We have our emerging traditions--the planning breadfasts, Craig Johnson's wine and cheese party, and our banquet speaker, who for this year is Hendrix Chandler, one of Florida's truly loved and honored persons in public higher education. If I think hard enough, I can recall something about each of the preceding nine conferences that is pleasant and heartwarming. Yes I can say with certainty that the conferences are loveable.

Those of you who heard Joan Bollenbacker give her speech as the outgoing president of the National Council for Measurement in Education in New York last April will remember her witty comments about our overuse of acronyms, including SAT, SCAT, CLEP, etc. Her comments, notwithstanding, I chose to arrange the personality traits of our organization in an order that spells "professional". I am sure that by now, you have perceived that I was ennumerating a set of personality traits that could be expressed as an acronym.

Well, the acronym is fitting and appropriate. Our conferences are perservering, reliable, original, friendly, energetic, sharing, statewide, inviting, objective, notable, autonomous, and loveable. In short, our conferences are professional. Being in attendance contributes to our in-service growth and development. Because of the competencies that you bring, and your willingness to hear about the work of your colleagues, you make possible a forum that is of value to yourself and to others.

So, our research conference does have a personality--a central professional core that is comprised of the distinct traits that I have cited. To me, the most gratifying consequence of these conferences is that the meetings are what you have made them be. The meetings in fact, have a personality that reflects the personality of the people who come here each year and given their participation and support.

Each year, new leadership emerges, and new directions are set. May I wish for the persons here today, for those who wanted to be here but who had conflicting plans, and for the new participants who will form the ranks in the years to come, as rewarding a professional experience in the next ten years as the past decade has brought to us.

FLORIDA STATEWIDE CONFERENCE
on INSTITUTIONAL RESEARCH

Legislative Workshop
Agenda

8:00 - 8:45	Introduction of legislative bills
8:45 - 9:15	Group strategy session
9:15 - 9:45	Subcommittee hearing on bills
9:45 - 10:00	Lobby/caucus time
10:00 - 10:15	(Break)
10:15 - 10:35	Committee vote on bills
10:35 - 10:45	Lobby
10:45 - 11:00	Floor vote on bills
11:00	(Wrap up)

LEGISLATIVE WORKSHOP

The best-laid plans of mice and - - - - -. And so we began the opening session of the 1977 Florida Institutional Research Conference. As our State Legislature went into a special called session, they simultaneously eliminated the planned program for the Institutional Research Conference which had Senator Betty Castor, and legislative analysts Jane Hayman and Suzanne Fisher scheduled as the participants. But the erstwhile Chairmen, Craig Johnson and Bill Law came to the rescue.

Johnson and Law came up with a most exilerating, very informative and entertaining replacement--a Legislative Workshop. An agenda including copies of five bills which had been before our State Legislature was distributed to all attending the session. Johnson selected a panel of four to join him as the committee to introduce the five bills. The panel members were Denise Strenglein, Pete Tully, Norris Minor and Charles Henson with Craig Johnson acting as Chamber Leader. The audience served as members of the legislature.

Each bill was introduced by its "sponsor" with appropriate remarks. The audience was divided into five groups and after the introduction of the bills, went into a strategy session, wherein each group discussed ways and means of getting "their" bill passed, and selected a spokesperson for the group. The Chamber Leader called us back into session where we had the Subcommittee Hearing on the bills. The spokespersons for each group presented their bill and arguments, then was questioned by and gave answers to the committee. This was a most amusing time for those of us "playing legislature" as well as a good insight into the actual performance of our legislative body.

After each of the five groups took its turn at presentation, questions, and arguments, the moderator called a lobby time. During this time all were free to make contact with others and try to pursuade them of the merits of "their" bill. After this break time, we were called back into session and next on the agenda was the committee vote on the bills, which was done by process of elimination. One bill was defeated and there was a call for questions and discussion on the remaining four. After this there was a second vote to eliminate one more bill followed by a house caucus on the remaining three. The chair called order, listed the remaining bills (with outrageously biased remarks about each), recognized the spokesperson for each bill in order, then called for discussion. There followed more lobbying, much confusion, and an impassioned plea by Jim Firnberg, President of the Association for Institutional Research, for the bill with "a lot of heart for a little money". Firnberg's theatrics were effective for in the final vote the other two bills were defeated.

Dr. Johnson as Chairman of the session made closing remarks and the workshop was brought to a fitting end.

Fran T. Hill

10th Annual Florida Statewide Conference on Institutional Research

Notes on the Collective Bargaining Panel Session

The Collective Bargaining Panel members were a diverse group who aired widely differing viewpoints.

Robert Whitaker, Professor of Chemistry, University of South Florida, former President and Vice President of the USF Chapter of the United Faculty of Florida, Local 1880, American Federation of Teachers was the first speaker. He spoke from a pro-bargaining, University Faculty members' point of view. He described the obstacles which the union organizers has to overcome in Florida. Some of these were faculty independence, lack of support by organized labor and the complexity of the process of organization under Florida law. Why then, he asked, did faculty finally organize? The reasons he gave were the erosion of faculty power and economic status, the lack of adequate grievance procedures and the growing power of non-academic administrators in academic governance resulting from the corporate nature of large universities.

The next speaker was Kaye Shannon Chief Negotiator for the faculty of Hillsborough Community College. Shannon described herself as a political conservative who would have opposed establishment of a faculty union. However, since the union was already in existence she saw it as an effective means to guarantee just treatment for faculty. She saw the arbitrary nature of administrative decision making as the primary cause for faculty unionization. The hardest thing Shannon has to deal with in negotiating is the administrative attitude, "if it isn't in the law you can't do it."

Gregg Gleason, Labor Relations Coordinator for the State University System was next to speak. He discussed the effects of collective bargaining on management. One such effect is that management is forced to deal with grievances quickly and more efficiently. Some observers feel that unions have managed to introduce due process and legalism into higher education. Unfortunately, collective bargaining tends to legitimize an adversarial relationship between administration and faculty. Another aspect of the process is the opportunity afforded management to introduce changes by thinking and proposing "the unthinkable" and the subsequent compromises which result. One disadvantage of collective bargaining is that middle management may get bypassed in the grievance procedure. Gleason suggests that one solution may be to give middle management as much responsibility as possible for settling grievances. Another phenomena is the expansion of the bureaucracy which results from incorporation of bargaining specialists into administrative ranks, since bargaining may be too complex a process to be absorbed by existing staff. A skilled negotiator and trained staff are required to protect the interests of the public.

Carl Kuttler, Dean of Administrative Affairs, St. Petersburg Junior College, gave his views on why unionization failed at his institution. Kuttler was quite outspoken in reasons why some people oppose faculty unions. One reason is unions are profit oriented businesses. In their attempt to organize St. Petersburg Junior College however the National Education Association played down its role as a union and stressed their "professionalism" at his campus. Kuttler said NEA lost, among other reasons, because they tried to create an adversarial relationship. An image of dictator was painted of certain administrators that did not exist. The union propaganda tried to characterize all of the Junior College administration as "visitors from afar" when in fact many faculty and administrators had a close working relationship. The union attempted to encourage a rumor mill atmosphere to pass on misinformation. Another weakness in the union campaign was the exclusion of student concerns. The union backed due process for faculty which they already had. It was also pointed out that the union often picks issues to get elected that later they have no jurisdiction over. Kuttler challenged us to consider this question: Does collective bargaining really improve educational quality?

The final panal member was Louis Murray, Coordinator of Planning and Analysis for the State University System. Murray discussed the data required by the negotiating team. Both budgetary and people data are required. In addition to local current and historical financial and demographic data, national market data such as comparable salary information are required. These data must be analysed to discover trends so that realistic contract commitments can be made.

The panel as a whole provided the listeners with a balanced view of the pros and cons of collective bargaining.

Denise Strenglein

THE NEW COLLEGE STORY AS TOLD BY ONE HUNDRED AND THREE ALUMNI

Kay E. Glasser, Ph.D.
Board of Trustees
New College Foundation
Sarasota, Florida

Presented at
Tenth Florida Statewide Conference
on Institutional Research June, 1977

PREFACE

The following report and the preliminary statement which introduces it were made to the Associates of the New College Foundation and their friends at a Special Meeting of the Associates, held on the New College campus on January 11, 1977.

The report is a summary of data secured in the conduct of a research study involving a sample of respondents who had, at some time since its establishment in 1964, been students of New College. Some were graduates of New College; some were not. The investigator was impressed with the thoughtful manner in which the respondents treated the questionnaire, a five-page instrument with both structured and open-ended questions.

Sarasota, Florida
January 11, 1977

Kay E. Glasser, Ph.D.

ACKNOWLEDGMENTS

This study would not have been possible without the endorsement of the Trustees of the New College Foundation; the Provost of New College, Dr. George H. Mayer; and Dr. Lester W. Tuttle, Jr., Dean and Administrator, Regional Campus Affairs, University of South Florida.

Special appreciation is expressed to Mrs. William B. Kip and Mr. Ted Sperling, Trustees, for their direct assistance in making this study a reality.

Finally, I dedicate this to the late Mrs. Rosemary Bouden, who brought me into the New College family, and whose indefatigable efforts on behalf of New College will remain a permanent inspiration to those who believe in the New College educational program, its goals, and its achievements.

A REPORT TO THE NEW COLLEGE ASSOCIATES

January 11, 1977

Introduction

Those of you who are here today have been supporters of New College over the years, some of you longer than others. But, all of you certainly share a mutual interest and belief in the New College concept. This is evidenced by your concrete support in dollars, as well as by your presence here today.

Those of you who have made a financial investment in New College have, like a regular stockholder, invested in something that you thought would be worth investing in, that would, you hoped, "pay off" handsomely. Your payoff could only be in the intangibles which go into a conviction about something, and in the satisfaction of knowing that your conviction turned out to be a sound one.

So, I would like you to consider my report today in the nature of a report to you as stockholders. This will not be in terms of how much money you've made on your investment. Rather, it will be in terms of how much value has accrued to the students who attended New College, and who have (as you will learn) benefited from your investment and your faith in the educational institution which they attended.

The research which I have conducted provides the substance for this report. I believe that this report will tell the New College story. I hope that it will bring former New College students alive not as statistics, and not as the product of an abstract concept, but rather as individuals, as persons in their own right.

June 1977 will mark the tenth year since the first class was graduated from New College. It is time for the alumni to tell their story.

Purpose, Scope and Method

I would like first to outline the purpose, scope and method of this study.

The major purposes were twofold:

1. to ascertain what has happened to New College students since they left New College.
2. to learn what, in retrospect, their perception is of the New College experience.

A random sample of 300 names was drawn from the total number of students (2100) who had attended New College since its inception, including those who had and had not graduated. The sample included 152 graduates and 148 non-graduates.

On September 27, 1976, the questionnaires were mailed, together with a covering letter signed by Dr. Mayer and Dr. Tuttle, requesting cooperation of the recipients, and a stamped, self-addressed return envelope was enclosed. By the way, it was a five-page questionnaire, covering areas of inquiry regarding socio-demographic data: education: employment: community and political involvement: and perceptions of the New College experience. There were both structured and open-ended questions (the latter, incidentally, requiring full answers, not just a checkmark.)

Of the total of 300 in the sample, 30 were "lost" because there was no way of locating them, although every envelope had been stamped "address correction requested." A total of 103 completed replies were returned, and they were thoughtfully and completely filled out. Thus, there was a response from over one-third of the total number who had been sent questionnaires. This is an excellent return, considering the nature and length of the questionnaire.

And now, I would like to report the findings to you. I will first present a profile of the graduates and then of the non-graduates. Following this, we will have an opportunity to learn what they thought about various aspects of their New College experience.

PART I

THE GRADUATES: A PROFILE

Who are the graduates?

Of the total sample population of 300, 152 were graduates of New College. Almost two-fifths (60) returned their questionnaires. This group is comprised of 35 men and 25 women. Almost one-half of the respondents were born in the Northeastern United States. Their mean age is 25.5 years. Thirty-seven are single; 17 are married; six are divorced.

What about their education since receiving their degree from New College?

Since they were graduated from New College, 90 per cent of the respondents (50) reported that they had proceeded to higher educational programs. Forty-eight specified that the programs were those which awarded degrees. Two others had attended programs which awarded certificates. Only eight did not pursue further education.

Of the 48 who continued in degree programs, 27 are currently still working in such programs. Eighteen others already have their degrees. These include 10 Masters' degrees, four Ph.D's, two M.D.'s and two J.D.'s. The 27 who are currently working for their degrees are largely in masters' programs. But, in addition, four respondents are working for their law degrees, three for Ph.D's, two for M.D.'s, and one for a doctorate in divinity.

Only three students who had begun higher education programs did not complete them.

The question was asked: Do you consider that your experience at New College has been helpful to you in your educational program(s) since leaving New College?

Three-fourths of the respondents thought that the New College experience had been helpful. Examples of their comments follow:

> "In effect, New College has allowed me to learn how to learn. This has been of more value to me than any specific set of facts I could have learned as an undergraduate." (Attends graduate school)

> "New College was both an opportunity and challenge for self-development. I had the benefit of making and defending my own educational decisions and being responsible for carrying them out. Success in these things underlies a gratifying and productive graduate school experience for me." (Attends graduate school)

> "I'm much better prepared to plan my own program as is necessary in graduate education. Also, better set emotionally to deal with ambiguity." (Attends graduate school)

> "More than anything else from New College, I've gained the ability to devise a program of study and carry it through. The actual 'content' I gained from New College has been more than adequate to meet my needs. A third area is self-confidence. I've never lacked for an ego, but from my experiences at New College, I feel more than capable of holding my own in any group or endeavor I care to enter." (Teacher of Grade 11; has Master's degree)

> "Without a doubt, I believe my last two years at New College provided coursework and experience that is invaluable to me now. I can directly attribute this to the environmental studies program and the field work and community work in which I was involved." (Student is enrolled in University of Rhode Island in Master's of Marine Affairs Program)

> "The New College experience led me to structure my learning independently and was a help in my initial year at the law center. New College's most helpful influence was the attitude I learned to bring to my studies, making me a vocal student participating orally with professors." (Has law degree)

What is their employment record?

Almost three-fourths of the respondents (42) are employed. Twenty-seven are working full time: 15 are employed part-time. Among the 15 who are employed part-time, 13 are attending educational institutions and working part-time to support themselves through school. The remaining two who are employed part-time are not in school.

Eighteen are not employed--but please note that 14 are attending school full-time. Of the remaining four who are not employed, one has just entered a management training program, having his degree in finance from Columbia Graduate School of Business. There are just three students in the entire New College graduate population group who are not employed. All three are seeking employment. One just received his law degree; one has his certificate from the clown program at the Ringling Brothers school; and the third (who had been employed at the John F. Kennedy Center for Performing Arts) had gone to Europe last summer, and was now seeking employment.

The median annual income of the full time employed is $7,300. Among the list of positions occupied by the 27 who are working full-time are the following: associate professor, assistant professor, attorney, surgical resident, museum registrar, legislative representative and budget analyst, priest, journalist, and director of a federal juvenile delinquency prevention program. Almost two-thirds of this group of full-time employed are satisfied with their current positions.

The question was asked: Do you consider that your New College experience has been helpful to you in connection with your present job?

Two-thirds replied affirmatively, explaining this primarily in terms of their conviction that New College had contributed much to their development as individuals and to their resultant capacity to deal with the challenges of being a responsible, employed adult. Illustrative comments follow:

> "I learned to be patient with irrational, unnecessary problems; to weather emotionally trying circumstances and to affirm values in the face of perplexities."
>
> "New College taught me how to deal with people; how to empathize and share and understand. It helped me to think with clarity and to proceed without fear, boldly."
>
> "Without the New College experience of making me think for myself and becoming responsible for my actions, I think I would not have the drive to succeed, nor believe in myself enough to succeed. Thanks for helping me believe in me."
>
> "I teach at a state university and have large classes. Yet, I try to put as much responsibility as possible on the students for the direction of their learning. Also, I try to remember the good relations between New College students and faculty, and try to maintain the same at my school now."
>
> "In order to teach well on the secondary level, I strongly feel you need a broad liberal arts background. New College gave me this."

What is their political and community involvement?

Most (over 90 percent) of the graduates of New College are registered voters. Since, at the time the questionnaire was mailed, the 1976 election had not yet taken place, the respondents were asked if they had voted in the 1972 election. Almost three-fourths reported having done so. Those who had not voted were not qualified to vote (because of their age).

Very few have participated in political activities, and most of them have no desire to hold political office themselves.

As for membership in community organization, most of them did not belong because of lack of time, lack of interest, or both. However, those who have begun to involve themselves in such organizations reflect an interest in cooperatives, environmental protection, and in people-helping programs.

THE NON-GRADUATES: A PROFILE

Who are they?

Of the total sample population of 300, 148 were non-graduates. Forty-three of them (over one-fourth) replied to the questionnaire. There were 24 men and 19 women. Their mean age was 23.5 years. Two-fifths of this group were born in the Northeast. One is foreign-born.

Of the 43, 29 are single; 12 are married: and two are divorced.

Educational status

Thirty-seven of the 43 respondents (over four-fifths) continued their education after leaving New College. Thirty-six attended some other school; and one other, who had completed his residence requirements at New College but not the entire program, had returned to New College to complete it.

Only six students did not continue with some form of educational program following their leaving New College.

Thirty-eight of the 43 respondents explained the reasons for not completing the New College program. It is of interest to note that one-third explained this in terms of their own inadequacies, largely referring to their "immaturity." Over one-fourth explained their leaving New College in terms of financial problems. Only five specifically stated their dissatisfaction with the program.

Of the 37 who continued with their education after they left New College, only seven did not finish the programs begun in other schools. However, 12 others have already received degrees: nine have their Bachelor's degree: two, their Master's: and one, an M.D.

Eighteen other students are currently in the process of working for their degrees. The largest number (13) are in Bachelor degree programs. Two others are candidates for Master's degrees: two are working for M.D. degrees: and one for a Ph.D.

The question was asked: Do you consider that your experience at New College has been helpful to you in your educational program(s) since leaving New College?

Over three-fourths of the respondents (29) answered affirmatively. Their explanations were largely in terms of the clarification for the student of the kind of education for which he was--and was not--fitted, and also in terms of the general growth in self-awareness which had been achieved.

Some comments, reflecting their opinion, are the following:

> "New College gave me a chance to experience a free educational system, though I was not prepared for it at the time." (Attending University of Georgia for B.A. degree)

"The independence allowed at New College made it possible to discover what I was interested in so that even though New College became the wrong place for me to pursue an education, it enabled me to focus on what I should be studying." (This student took classes elsewhere; did not matriculate)

"At New College I picked my field of specialty (biology), and had so many valuable experiences in the field that let me know what biology really is. More generally, I had to learn self-discipline, and independence; how to think; work hard; and finish a project. I learned more about myself in those two years, about what I wanted to do, so that I could apply myself at the University of Maryland....I appreciated the knowledge I gained at New College." (This student received a B.S. degree at University of Maryland)

"The New College experience gave me a realization of the importance of decision-making on a basic level, that of my own educational future. The lack of definite structure forces the student to think out his actual goals, and the means of attaining them, rather than merely plugging in to an already established structure. Although something to cope with initially, if followed up on, this type of setup can only be an asset to an intelligent and interested student." (Received B.A. from Stockton University)

"In retrospect, I look upon my two years at New College as extremely valuable as far as exposure to academics and emphasis on independence goes. I believe New College is still producing free thinkers who are less bound by artificial grading systems, etc., than the average college student. If fully appreciated and explored, New College can really be the ultimate in a college experience, if one is interested in preparing for life, and not just graduate school." (Student is completing B.A. at University of Chicago)

"New College greatly facilitated my learning to enjoy learning and to value learning for its own sake, as well as how to go about doing it on my own, and how to evaluate what was important in a course, how to get the most out of it, using the methods I found were most efficient and effective for me." (Has B.A. from University of Minnesota)

Employment status

Of the 43 respondents, almost three-fourths (32) are employed. Nineteen are working full-time and 13 part-time. Ten are not employed. One is "self-employed."

Of the 13 part-time employed, 11 are still attending educational institutions. The other two who are working part-time are not attending school. (One, a contractor, did not attend any school after leaving New College. The other part-time employee, a truck driver, attended several other schools but did not complete the program anywhere.)

Of the ten respondents not employed, please note that nine are working on their degrees full-time, and the other is a housewife.

Among the 19 who are working full-time there are a range of positions, including resident physician, army bandsman, park technician, university teacher, counsellor, legal secretary, and zookeeper. The annual median income of those working full-time is $14,100.

Seventeen of the 19 who are employed full-time indicated that they had further career goals, and ten of them indicated their intention of securing further education or training to this end.

The question was asked: Do you consider that your New College experience has been helpful to you in connection with your present job?

One-half did not think so: the other half did. Those who did not think so found no relationship between what they were doing and the New College experience. However, the other half who thought New College had been helpful replied with such statements as:

> "New College taught me learning on my own, independence, how to ask questions, freedom of and encouragement of self-expression. New College enabled me to learn lots about myself...."

> "My New College experience substantially increased my confidence in the value of my thoughts to others, including teachers."

Political and community involvement

Ninety per cent (39) of the group of non-graduates of New College were registered voters. Three-fifths reported that they had voted in the 1972 election.

Most of the respondents had no political aspirations of their own, and 16 of the 43 (slightly over one-third) reported having engaged in some form of political activity.

Membership in community organizations was indicated by 14 (one-third) of the respondents. These reflected an interest in cooperatives, the environment, and in people. The remaining two-thirds who did not belong to any community groups attributed this to lack of interest, lack of time, or both.

PART II

PERCEPTIONS OF THE NEW COLLEGE EXPERIENCE

In this section, each question asked of the respondents will be presented, followed by a summary of the content of the replies by each group, graduates and non-graduates. Quotations, illustrating the nature of the responses, will follow.

Question: Are there, in your opinion, any particular weaknesses in New College?

Graduates: Over 90 per cent of the respondents thought that there were weaknesses. The two areas largely mentioned have been classified in terms of lack of counselling, and "deficiencies in the quality of life." Reference in the latter case is particularly to the need for a "sense of community" on campus. While references were made to the curriculum, there was no consensus. Rather, the replies were entirely individualized, depending upon each student's experience.

> "There was a lack of realistic career-planning facilities."

> "There was a severe lack of counselling for students not going on to graduate school. Non-academic endeavors should also be encouraged. I found that there was no one to advise me about employment opportunities, or how to reach other kinds of goals."

> "Although it ultimately worked to my advantage, I found that my education at New College was rather a 'sink-or-swim' experience. A student gets tossed in as a freshman with practically no guidelines and either pulls his act together, or drowns, academically speaking. This puts a lot of strain on people, as it is pretty difficult to figure out what makes up a valuable college education when you've got no background or experience to draw on. A balance must be reached between decisions based on an individual's interests and personalities, and those based on advice and experience provided by others. Stress on the former was valuable in gaining self-reliance, but the latter was absent all too often."

> "I think the program would be much stronger and more valuable with a stronger setup for offering advice and and guidance to students. It is important that students make their own choices, but there is much to

> be gained by offering them a broader or more long-term perspective than they themselves have, not to mention the experience of people who have already been thru the processes that students are just beginning."

> "The weakness are implicit in the strengths:
> 1. Give people responsibility; they'll make their own mistakes.
> 2. Let people run their own lives; they won't always do it the way you like.
> 3. The student is free to be a hazard to himself.
>
> And, if that's changed, the whole system changes. A lot of people can't hack it psychologically. A lot of people can't hack it intellectually. A lot of people shouldn't go there. Are those weaknesses?"

Non-Graduates: Almost similar to the graduates, 90 per cent thought there were weaknesses. In this case, the two leading categories referred to were "deficiency in quality of life" (with reference again to a lack of "sense of community") and aspects of the curriculum. In the latter case, the comments were highly individualized, reflecting no consensus.

(The following replies illustrate the kinds of comments made which were classified as "deficiencies in quality of life.")

> "The atmostphere on campus seemed very isolated... also, there were a lot of people in school for no real reason, myself included, who had come from families which expected college-educated children, and which had no real knowledge of the practical world."

> "New College, when I attended, seemed very scattered. We were given the option of going on contract, rather than attending classes (or both), and although I appreciated the option and the self-reliance it created, it tended to isolate people from each other to the detriment of an open sharing of personal resources. There wasn't enough in the way of orientation and encouragement of community spirit. It was a sink-or swim atmosphere that was psychologically shattering for many students, myself included."

(The following comments highlight the replies which emphasized the lack of counselling, which was also regarded as a weakness.)

> "New College was such a patchwork quilt of highly intelligent and emotionally charged individuals that perhaps a more concerted effort at having some grounded counselling personnel might have helped alleviate some of the anxiety among students, which prompted many of my fellow classmates to get out of the New College environment."

> "Although the idea of a flexible system is excellent, a student encountering this kind of situation for the first time needs a greater amount of guidance and counsel. The need to talk to, and get advice from, someone experienced in this type of learning environment is very important--not to do the work of choosing and organizing, but to show the student the possibilities within himself and within the system."

Question: In your opinion, are there any special strengths in New College?

Graduates: Almost 90 per cent of this group thought that New College had special strengths. There was largely an emphasis on the program in its various aspects. In addition, frequent reference was made to the quality of faculty and students.

> "Some excellent faculty and motivated students; contract system, flexibility; lack of stigma attached to failure, non-competitiveness; encouragement of creativity; close contact between students and faculty; freedom to design your own education."

> "The social and educational freedom; lack of traditional grades; small size/intense community: dedicated teachers (no sarcasm in that!); tolerance; eagerness for innovation."

> "Confidence in the student as an individual to have an active part in determining the course of his education; emphasis on a true liberal education."

> "The strength was that each student had to be responsible in the final analysis for his own education."

> "New College challenges one to take hold of one's own course of development."

> "New College was broadening and strenuous Experience there shaped my career choice and daily living. I can recognize, evaluate, and deal with complex situations."

> "Interpersonal relationships. Faculty and students treated each other like people..."

> "New College has a unique faculty that, on the whole, cares about individuals and their directions and potentials, instead of what they are going to publish next."

Non-Graduates: Ninety-five per cent of this group considered that New College had special strengths. And, in this case, their emphasis was similar to that of the graduates (i.e., on program, and the people at New College).

> "The independence and total ability to shape one's own academic and non-academic lives at New College was the special strength I felt New College possessed. Of course, the academic faculties' ability to impart knowledge and guide one to seek knowledge was crucial in the environment of freedom to be found at New College."

> "I think the program is designed for those who want to be educated. The unmotivated do not make it here. Perhaps this is why I left. I was not taking full advantage. I think I could really enjoy school at New College now since I have learned to work for my sake, and not because I don't know what else to do."

> "The main strength of New College is that it encourages one to take responsibility for one's education. The ability to be one's own judge and teacher can be carried on in life."

> "The strength of New College is the open environment for learning."

> "The small size of the program which permits greater interaction between students and with faculty....."

> "Instructors for the most part were excellent; the students were of excellent caliber and provided much stimulation. The size of the population was nice, in that one got to know and meet nearly everyone."

Question: Do you think that New College had an important role in helping with your career goals?

Graduates: Slightly over one-half of this group thought New College had been helpful, not so much in terms of specific career guidance but rather because they considered that they had had an opportunity at New College to mature and develop self-awareness, as well as to explore areas of interest. Those at graduate school frequently referred to skills acquired at New College which were being applied in their graduate work.

> "The lack of rigidity in following a patterned curriculum was the strongest part of New College. This was a major factor in choosing a career, by trying out a number of possible courses of study."

> "Without my intense interest in creative writing, developed at New College, I would have undoubtedly pursued a mundane job in magazine journalism."

> "New College helped me not with the career itself, as much as the personal strength I was required to find, however slowly and painfully at New College."

> "New College allowed me to strengthen the necessary skills which has resulted in leading me into the law profession. A liberal arts background is very helpful. I feel that my curiosity and lack of fear in tasting new subjects in my undergrad years is sustaining me in the rigorous, confined study of law."

> "I knew I was going into teaching, but by preparing me and introducing me to quality teachers (something decidedly lacking in my high school career), New College has helped me."

> "New College helped shape my goals, rather indirectly, by allowing me to find out new things for myself and in that way deciding my goals by myself."

Non-Graduates: One-half responded affirmatively, emphasizing that New College had helped them because it was there that they clarified their goals, found out what they wanted to do, and acquired a better understanding of themselves.

> "New College normalized high goals, high achievements, and broadened my horizons." (Received B.S. in computer science at another school)

> "New College convinced me that while I might enjoy a career in academia, the disadvantages of the situation would be greater and that I would pay a high personal price for such." (This student left New College and became a photographer and writer, but now is planning to go to a forestry school)

> "My experience at New College forced me to leave New College, and thus seek something else. It was self-coercion, not the institution ordering me." (This student secured his B.A. elsewhere, and now is working for his M.D. degree)

> "New College pushed me to quit school and decide what I really wanted to do with my life." (This student went on to secure a B.A. and an M.A.; is an instructor in a community college; and plans to secure a Ph.D. and become an administrator in the field of education)

Question: Do you think New College influenced your life in any other way? (Other than with respect to career goals).

Graduates: Almost 90 percent thought that New College had influenced their lives. The major theme of their comments was that the experience at New College had led to their learning more about themselves and to achieving a level of maturity which they had not had. Another area mentioned was associations both with faculty and students at New College.

> "New College taught me, in the long run, that the individual is responsible for his or her own life, academically, socially and otherwise." (Graduate student, working on Ph.D. at Duke University)
>
> "I think of New College not only as a school but as a way of life. My experience there helped develop my personality and philosophy." (Graduate student in journalism)
>
> "I suspect that I matured faster than I would have in a more regimented environment." (A physician)
>
> "The self-searching going on at New College at the time I was there both reflected and magnified my own search for meaningful goals." (Graduate student in journalism)
>
> "Mainly my New College experience exposed me to new ideas and life styles, matured me, helped me straighten out what my own values are, and helped me learn to think." (Federal investigator)
>
> "Much of my time at New College was confused and lonely, emotionwise. Nevertheless, soon after leaving, I found myself on several adventures (including a year working and studying abroad) in which I surprised myself and others with a flexibility and resiliency that must have been enhanced by my New College experience. I have continued to make some decisions regarding work, place of living, graduate school, with more awareness and maturity than I believe I otherwise would have had." (Ph.D. candidate)
>
> "I have been proud of the consequences which flowed from the high-risk commitment I made to the College. I believe it taught me to have confidence that good (the not perhaps expected) results accrue to one who is prepared to commit himself to chancy ventures for the right reason." (a priest)

Non-Graduates: Almost four-fifths of this group replied in similar fashion to the graduates.

> "It was one of the best living and learning experiences I have encountered." (This student is attending a school of allied medical professions)
>
> "Certain personal/philosophical conflicts were relieved and/or resolved. I came to know myself better at New College." (This student is attending the University of Florida)

> "I learned and grew as a person at New College more than I have any other two years of my life." (Received B.A. elsewhere)

> "New College gave me a feeling that I could do anything I wanted, if I had faith in myself. I don't think I'll ever shake off the mark of Cain that I carry since New College. I'll always know that I can create my own life and opportunities, even if I never make of them what I would like." (Received B.A. elsewhere.)

> "To explain how New College influenced my life is beyond me at this point, even after five years of thinking about it. It was the most intense experience of my life, and it has been my yardstick by which other academic environments have been measured. It is a rather pervasive influence in my life." (This student has B.A. from another school, and is currently in a master's degree program)

Question: Do you consider that attending New College was a worthwhile experience for you?

Graduates: Ninety-five percent thought New College was worthwhile, explaining this in terms of what the experience meant to them personally, academically, or both.

> "Most important thing in my life. Give me a year and I'll explain!"

> "The New College experience provided opportunities for autonomy, self-growth, intellectual exchange, and a beautifully stimulating environment." (Medical student)

> "New College forced, prodded, inspired, required of me to take responsibility for my own education---to choose interests, to evolve my own inner discipline. Not merely to decide courses, but to decide my life: its bends and angles and directions." (Doctoral student in education)

> "New College provided a chance to develop values and the skills to express those values. This is education... this was New College. All else is training." (Divinity student)

> "New College helped me to learn how to think, how to relate to people, how to work. It challenged me, as nothing has before or since. It exposed me to new ideas, matured me. It was the greatest experience of my life." (Federal investigator)

"Although a bit harried, it was a good place to grow up. How do I explain why it was good? It was a community, and, as such, a support network. It was a hard place to leave. It was a high-energy environment and creative. One could work hard and play hard and did. It gave one the freedom to experiment with ideas and ways of being, without a great deal of censure." (Physical therapist)

"I think that the New College experience was an excellent way of coming to a decision about my interests and goals. It also helped develop a sense of independence and responsibility for my own education which I consider vital." (Graduate student in psychology)

"It was the best experience of my life, an overall healthy atmosphere to grow and gain confidence in my intellectual abilities. The lack of competition was important. A time to be exposed to an overwhelming amount of intellectual and emotional stimulus--a new, creative, inventive atmosphere." (Law student)

"An atmosphere prevailed where a student could still breathe, even if no longer actively pursuing intellectual goals. To explain: I went to college directly from high school; stayed there for two years and two summers; and, in my seventh term, got tired of schools. New College allowed for such possiblitites. So rather than floundering, I was able to use my leave time to gain worldly experiences to complement my formal education. This extra breathing room gave me space/time to integrate academic goals with life goals. Had it not been for the New College structure which allowed for such student "overload" contingencies, and for the excellent psychological counseling available...I might possibly be digging ditches now, instead of enthusiastically pursuing my current academic goals." (Graduate student)

Non-Graduates: Slightly over 90 percent of this group also thought the New College experience worthwhile and for the same kinds of reasons, with emphasis on their becoming aware of what their potentialities were, and were not.

"It has been helpful because, honestly, I've been another kind of student since I left New College. After that year, I've had a more serious and responsible attitude toward investigating and learning. My preference for reading and studying increased. I was no more the shy boy from a backwood village. New College experiences are now deeply rooted in my background. They form part of it. I'm a different person now, for the better." (This student had a scholarship. He was from the Dominican Republic. He did not finish the program at New College because his scholarship ended, but he secured degree at Madre y Maestra University, UNPHU: studied for five years in the subjects of education and business administration and has his "Licenciado")

> "New College gave me the freedom to make painful mistakes, which began to open me to the realization that I had to look after myself. I would certainly have to consider that worthwhile." (This young woman attended another educational institution after leaving New College, but did not complete the program. She is married and a housewife)

Question: If you were sending a child of yours to college today, would you send him (her) to New College?

Graduates: Over one-half replied that they would send their child to New College, but they made it clear that this would have to be the choice of the child; that the child would have to know what the program was like and what was expected of him; and that he would have to be able to deal with the program. Further, many emphasized that they would send their child to New College only if it remained the same kind of place it was when they had attended.

> "I would not send my child anywhere. If he felt informed about New College, and interested in and committed to goals it could help him reach, I would encourage his attending New College." (Graduate student in psychology)

> "Hopefully, he (she) would be 'choosing' rather than me 'sending,' but I doubt if I'd veto any decision to attend New College. I'd want the kid to have a strong ego, decent social skills, supportive friends, and some firmly established academic interest, though, in order to feel that he would benefit from the experience." (Director, Federal juvenile delinquency program)

> "If I was assured it would be similiar to my own experience, not always happy but fantastic." (Environmental education specialist)

> "It would depend upon whether or not the College retained the academic standards it had when I was a student." (Literary agent)

> "It would very much depend on the child's interests and abilities. New College is best for the strong and unselfish." (Assistant professor)

> "If my child had the strength of character to think and act for himself. Pressures were brutal at New College....the greatness of New College will lay in its resiliency. If my child has this same resiliency, I would be more than happy to match them up." (Jeweler/gemologist)

> "It would depend on the child and on my pocketbook. Not every child wants or could handle the amount of freedom New College offers. Of course, we are really talking about 'freedom within limits', but when I was there, someone asked me: 'Well, Jay, what would you like to do here?' Not everyone was as ready as I was to answer that question." (Graduate student)

> "It was invaluable experience. As long as the academic quality and freedom remain intact, I will recommend New College highly. More important is the special atmosphere that may be harder to protect. The school seemed to revolve around the needs, desires, 'quirks' of the students. New College was a school for the students. It provided an opportunity to grow, make mistakes, live in a community with little fear of punishment. There may be no other schools ever to provide protection for its students as New College offered. I will be sad if that changes. It was the best years of my life." (Law student)

> "Would I send a child of mine to New College? It would be up to him. New College has my love and seal of approval, if you are looking for reassurance!" (Musician)

Non-Graduates: Less than one-half would send their child to New College. In the case of this group, as in that of the graduates, it was clear that they would send their child to New College only if the child chose New College, was fully aware of what was expected of him, and could deal with it in terms of the self-discipline required.

Almost two-fifths of the non-graduates did not know whether they would send their child to New College. The replies were based primarily on whether the child would want to go the New College, and whether New College was the same as they had remembered it.

> "If the child could handle himself in that atmosphere. Not all can, and not all children should go to New College. If nothing else, New College has given its alumni an elitist tendency which we take pride in. Not everyone can join the club." (This student is completing his B.A. in another school)

> "Hopefully, the child would have sufficient enthusisam and motivation to use the New College academic situation to personal advantage." (This student is completing B.A. elsewhere)

> "I feel that the experience would do him good. I only wish I could have finished my education at New College." (This student only attended for one semester and dropped out because of family problems. She works in an office)

> "I would send my child to New College if I could afford it, and if he wanted to go. It's up to the child, really. I would definitely discourage my child from attending a large school. I don't think he'd learn a damn thing worth knowing. What you really need for life is personal knowledge of yourself and the world, and not a bunch of credits or facts. After you have these things, that make life worth living, then you worry about how to keep food in your mouth. Yes, I would send my child to New College, depending upon what it is now." (This student has a B.S. with honors from another school, and is on his way to a medical career)
>
> "I would have to know my child first. I would have to know New College again, first. The situation would dictate my preference." (Student attends University of Florida)
>
> "I would be interested in identifying what growth-development New College has undergone since my time there. Are you people still really the same?"

CONCLUSION

The brief summaries already provided of the graduates and non-graduates reveal similarities between the two groups. When statistical tests of significance were applied to the data, it was evident, indeed, that there was no significant difference between the two groups in the various areas of investigation: sex, age, marital status, employment status, attendance of other educational institutions after leaving New College, and participation in the community as citizens.

For example, almost three-fourths of both groups went on to educational institutions. Almost three-fourths of both groups are working. Those who are not working are in school. (In the entire sample of 103 respondents, only three are not employed.) Both groups show no particular political aspirations or involvement in political activities or community organizations. However, the limited number who do belong to community groups reflect an interest in protecting the environment, in helping people, and in cooperatives.

There is also a great similarity between both groups in connection with their perception of the New College experience. Both groups considered that New College had helped them with their educational experiences elsewhere.

The majority in both groups thought that New College had had an influence on their life, as a whole. About one-half in each group thought their experience at New College had been helpful in connection with their career goals.

The majority in both groups acknowledged weaknesses in New College, but a similiar number also identified strengths, stressing the New College concept and the quality of faculty and students.

What I have found to be especially interesting, in considering the similarities of the graduates and non-graduates of New College, is the fact that they shared a similar positive attitude and response in connection with two questions about which I thought surely there would be some differences. I would have thought that those who did not graduate from New College but who went elsewhere to secure their degrees would possess some definite negative attitudes toward New College. It did not turn out that way, as is evident from the answers to those questions: "Do you consider that attending New College was a worthwhile experience for you?" and "If you were sending a child of yours to college today, would you send him (her) to New College?"

The non-graduates (over 90 percent of them) said that they had found the New College experience worthwhile. Ninety-five percent of the graduates answered in the same way.

And, as for the question about sending a child of theirs to New College, there was a remarkable unanimity...yes, they would, providing that their child had made the choice himself; knew what the program was like and what would be expected of him; and provided (and this is the clincher!) that New College had remained the same as it was when they attended!

THE PROBLEM WITH THE PLACEMENT STUDY

Norris Miner
Systems Officer
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Presented at
Tenth Florida Statewide Conference
on Institutional Research June, 1977

SEMINOLE COMMUNITY COLLEGE

THE PROBLEM WITH THE PLACEMENT STUDY

Norris Miner

Flip Wilson's character, Geraldine, is want to say, "What you sees is what you gets." What people see in The Florida Community College Placement Report (see Appendix A) could "get" some colleges if the reader does not understand the bottom line - "Placement Status Unknown." However, "Placement Status Unknown" is not the kind of "grabber" that gets one's attention. This paper addresses some of the problems which could be created if the bottom line is ignored and the responses are treated as a true population sample.

The Division of Community Colleges of the Florida Department of Education, acting under a mandate of the Legislature of the State of Florida, required the Community Colleges of the State to conduct a placement study of all persons who had completed a prescribed program of study at the Colleges during the academic year 1975-76. The report was due March 1, 1977.

The study examined the present status of the program completer (graduates). The relationship of this status to the objectives of the program form one measure of the effectiveness of the program. Student objectives are not considered in the study, only program objectives.

A separate report is required for each program. Graduates are first separated by race and sex and then classified into one of the following placement fields.

A. Employed fulltime, in-field trained or related.
B. Other employment (not in related field).
C. Continuing education at a higher level.
D. Unemployed - seeking employment (work).
E. Not available for placement.
F. Placement status unknown.

A computer card file of Associate of Arts and Associate of Science graduates containing the graduate's social security (S.S.) number and program of study was matched with the total college credit file for 1975-76. A list of graduates, classified by program, race, and sex, was produced together with a set of mailing labels.

At the time of the study, data on Seminole Community College students in programs was maintained in two separate computer files, college credit and non-credit.

Machine processible completion data were not readily available for the non-credit program students. Therefore, a listing of these students was provided by the individual program teachers together with teachers' personal knowledge of student placement.

Questionnaires were sent to all credit program completers and to non-credit program completers if there was no indication of placement provided by the teacher.

The cost in both time and money associated with such a mail-out study, together with the inherent questionable results and the ultimate utilization of those results, was a major concern to the colleges of the state. Variable rates of response between the colleges and the possibility of response bias made the inevitable comparisons deceptive, if not damaging.

The member colleges of the Florida Inter-institutional Research Council (IRC) took as a project an alternate method of obtaining the information. The IRC study used computer input data containing the graduate's social security number and program completed. These data were then merged with the third quarter (ending September, 1976) Department of Commerce files. The Department of Commerce files contain employment data on all persons in the state who are eligible for unemployment compensation. For every match in social security number with graduate files, the number of weeks worked, total wages, and the code for the employer were obtained. The graduate files were then merged on social security number with the State University System (SUS) student master file for Term I of 1976-77. If there was a match with the SUS tape, the University and program were obtained. GPA was not available.

Previous research had originated with the SUS files, using the college of origin field of these files to identify the community college transfer. However, if the student stopped-out after a term or took courses at another college or university, the SUS fields would no longer carry the college code of the college of completion. Accessing the SUS tapes with local college data which contained the SS number eliminated the misses which could occur under the previous method.

In order to examine the validity of the two alternate methods of study, each college agreed to use both methods in order to produce a comparative study. The diversity of the offerings among the member colleges and the availability of data precluded the inclusion of non-credit programs within the IRC study. This paper will examine some aspects of the studies as they relate to college credit students from Seminole Community College.

The IRC study had well defined constraints. First: only students pursuing education in the SUS would be discovered. Out-of-state and private university students would not appear as continuing further education. Second: the employer occupational code would be obtained and not the occupational code of the graduate.

The advantages of the IRC study seemed greater than the disadvantages introduced by the defined constraints. Further, the comparative studies could provide insight into adjustments necessary to make reasonable interpretations of the IRC study. The following were some of the advantages anticipated in the IRC study. First: the IRC study was expected to provide a greater response. Second: any errors introduced through self-reported data would be eliminated. Third: data collection and reporting would be consistant among the colleges. Fourth: response bias, if it existed, would be eliminated. Fifth: the method would be less expensive than mailing questionnaires and processing the responses.

A field testing of the Seminole Community College questionnaire was conducted on a sample of fifty Term I graduates in June, 1976. Twenty-seven (54%) students responded. A revised questionnaire was mailed to the students who did not respond to the first questionnaire and to all other graduates in December, 1976. (See Appendix B) A total of 248 (56%) out of 443 students responded to the two mailings. The students responses are summarized in Table I.

TABLE I

SCC QUESTIONNAIRE

		NUMBER	%
A.	Employed full-time in-field trained or related.	5	2.0
B.	Other employment (not in related field).	27	10.9
C.	Continuing education at a higher level.	202	81.5
D.	Unemployed - seeking employment (work).	6	2.4
E.	Not available for placement.	7	2.8
F.	Placement status unknown.	1	0.4
	TOTAL	248	100 (1)

---

(1) Percent in this study will not always add to 100 due to rounding of individual entries.

The first information from the IRC study was obtained by matching graduate data with SUS tapes first. If a match was made with the SUS tape, the individual was removed from the list with the necessary supplementary data from the SUS tape. The remaining individuals were then matched with Department of Commerce tapes.

The IRC study did not provide direct information on related and non-related employment in this phase of the study. Further work will have to be done to establish compatible program codes between program completers and the codes used for employers on the Department of Commerce tapes. A second phase of the IRC study should provide further information and some solutions to the problem.

The IRC study provided direct information on numbers employed and in the SUS. Employment was divided into full-time and part-time by using $92 per week as a dividing point. Department of Commerce data do not include full-time or part-time status. However, income of $92 indicated work of at least 40 hours at minimum wage or wages above minimum for shorter hours. Data from the IRC study should be interpreted with this arbitrary criteria in mind. Table 2 shows the results of this part of the study.

TABLE 2

IRC TOTAL STUDY

	NUMBER	%
Not found on either tape	76	17.2
Employed part-time	37	8.4
Employed full-time	120	27.1
In the SUS	210	47.4
TOTAL	443	100

Treating a match with either the Department of Commerce or SUS tapes as a response to the study allows for a comparison of response data from the two studies. The comparison is necessary to determine the validity of assumptions made from the responses of either study and will allow an examination of the possibility of response set or bias. Table 3 treats the IRC data as response data by eliminating the 76 misses in the IRC study.

TABLE 3

IRC RESPONSE STUDY

		NUMBER	%
Employed part-time		37	10.1
Employed fulltime		120	32.7
In the SUS		210	57.2
	TOTAL	367	100.0

When the results of the two studies were merged to form a pooled study, all but 24 of the students were accounted for. Table 4 gives the results of the pooled study.

TABLE 4

POOLED STUDIES

		NUMBER	%
Not found		24	5.4
Employed		137	30.9
In advanced education		282	63.6
	TOTAL	443	100.0

Table 5 treats the pooled data on a return basis by removing the students not found in either study.

TABLE 5

POOLED RESPONSE STUDY

		NUMBER	%
Employed		123	29.4
In advanced education		282	67.3
Other		14	3.3
	TOTAL	419	100.0

Table 6 provides a comparison of the three studies.

TABLE 6

COMPARISON OF STUDIES (PER-CENT)

	SCC	IRC	POOLED
Completion rate	56.0	82.8	94.6
Response rate			
Employed	12.9	42.8	29.4
Advanced education	81.5	57.2	67.3
Other	5.6		3.3

If the responses in either of the two studies were treated as a true random sample, errors would result. The College questionnaire study would indicate 81.5% of the students were in advanced education. The IRC study shows 47.4% and pooled data 67.3%. Even if every one of the missing people were in one catagory, the pooled data must be within five per-cent of the real number. The true number must be between 63.6% and 69.1%.

Sixteen of the twenty-four graduates not accounted for in the original studies have been traced. Eleven are continuing their education with seven delayed entrants to the SUS, two at Rollins and two at out-of-state schools. The other five are working. The pooled response percentage data are not effected.

The college study illustrates a strong bias in respondents. It is obvious that our graduates who continue to advanced education are also those who will better respond to placement questionnaires. The college will furnish IRC with the results of the questionnaire study to try to determine if other errors or bias exist in the self reported data.

The defined constraints built into the IRC study made a low ratio of graduates in advanced study inevitable since out-of-state and private college or university students could not be identified. A "point in time" problem also became apparent. A study of students who responded to the Seminole questionnaire as attending a SUS member institution and who were not identified on the SUS tape showed intended or real delayed enrollment past the fall term. This result is consistent with other studies which show that the community college student does not consider the "stop-out" as a real interruption of his/her educational plan. The present study would indicate that about 25% of our advanced study students will not appear in a study using only fall term SUS information.

Table 7 gives a breakdown of advanced education by college, university, location, or type from the combined study.

TABLE 7

PLACEMENT OF HIGHER EDUCATION

	NUMBER	%
University of West Florida	3	1.1
University of South Florida	9	3.2
University of Florida	25	8.9
Florida Technological University	171	60.6
Florida State University	17	6.0
Florida Atlantic University	3	1.1
Florida A and M University	1	0.4
Rollins	32	11.3
Other State Private	4	1.4
Out-of-State	17	6.0
TOTAL	282	100

The combined studies indicate that future placement studies should be conducted along the lines of the IRC study. The cost of college studies, the lower response rates, and the bias of responses make the questionnaire method the least attractive of the two approaches. Further analysis of the pooled data will provide for reasonable adjustments in the IRC data at both the state and local level. If properly financed and supported, checks could be made on the method at established time periods with either sample or total population studies. The cost of a total study each year would be prohibitive. Inasmuch as the studies are only one indicator of the effectiveness and accountability of college programs, the information contained in the IRC study would seem sufficient if the user is aware of the limitations of the data.

The IRC study has the further advantage of providing data for the examination of many additional questions. IRC will produce a study on the validity of such self reported data as salary, GPA and university major. The data also illustrates the continuing pattern of the combination of education and employment that is so prevalent at the community college level. How extensive is this? How long does it last? What effect does this employment have on time required to receive an advanced degree? The IRC study has a built-in potential for longitudinal study. The study could be replicated with the same population for any number of years. Questions on "stop-out", success, persistence, grading patterns, and many others could be addressed by this means, cheaply and with an assurance of better compatibility among the colleges.

Geraldine, as far as the IRC study, we "likes what we sees" and - you're not too bad either!

Appendix A

PROGRAM CODE ______________
PROGRAM TITLE______________
CAMPUS ________________
AA-1, Phase II-A

College ______________
Prepared By ______________
Date Prepared ___________

PLACEMENT AND FOLLOW-UP REPORT
PHASE II
PLACEMENT REPORT AND FOLLOW-UP STUDIES

Occupational Program Type:
___ Post-Secondary Technical
___ Post-Secondary Vocational

Program Length:
___ Semester Credit Hours
___ Clock Hours

Completion Award Type:
___ Associate of Arts
___ Associate of Science
___ Technical Certificate
___ Associate of Applied Science
___ Certificate of Applied Science
___ Certificate of Training

Date Categories	Non-Resident Alien		Asian or Pacific Islander		American Indian or Alaskan Native		Black (not of Hispanic Orgin)		Hispanic		White (not of Hispanic Orgin)		TOTALS		
	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Total
1. PLACEMENT															
A. Employed full-time in field trained or related field															
B. Other employment (not in related field)															
C. Continuing Education at a higher level															
D. Unemployed - Seeking Employment (work)															
E. Not available for Placement															
F. Placement status unknown															
G. Total (Same as Item 2 on AA-1, Phase I)															

Appendix B
Page 1

SEMINOLE COMMUNITY COLLEGE

SANFORD, FLORIDA 32771 (305) 323-1450

Management Systems Office

December 10, 1976

Mr. John Doe
2912 Walnut Crest Drive
Sanford, Fla 32771

Dear Mr. Doe:

State law and regulations of the State Department of Education require Seminole Community College to report on the placement status of our graduates.

Although the system of reporting requires that we identify your questionnaire with your name and social security number, you may rest assured no data will be released on an individual basis. The graduate file we are building shall be confidential.

Would you help us by completing the questionnaire and making any necessary corrections on the data we have on you? A postage-free, self addressed envelope is enclosed for your convenience.

Please feel free to call on the College for assistance in educational or job placement should you need help. Use the back of the questionnaire to add any comments about our services and programs you feel would aid us in our efforts to better serve our students. We need and value your opinions.

Thanks for your help.

Sincerely,

Norris Miner

Norris Miner
Systems Officer

NM:at

Appendix B
Page 2

PLACEMENT INFORMATION

Address Correction if Necessary
____
____
____

Mr. John Doe
2912 Walnut Crest Drive
Sanford, Fla 32771

Associate of Arts Term II 1975-76

Please check the appropriate response that best describes your personal degree of satisfaction with your education at Seminole.

None ____ Little ____ Moderate ____ Much ____ Great ____

Please check the appropriate numbered statement and complete all parts of the statement which apply to you.

☐ 1. I am presently continuing my education at:

____ Florida Atlantic University
____ Florida International University
____ Florida State University
____ Florida Technological University
____ University of Florida
____ University of Miami
____ University of North Florida
____ University of South Florida
____ University of West Florida
____ Other ____________________
____

My grade-point average at this institution is:

____ Less than 1.50
____ 1.50 to 1.99
____ 2.00 to 2.49
____ 2.50 to 2.99
____ 3.00 to 3.49
____ Over 3.50

My program of study at this institution is ____________________

☐ 2. I am employed full-time: Job Title ____________________

Firm Name ____________________

Address ____________________
____
____

My salary is ____________________

☐ 3. I am awaiting an opening in : Education ____ Employment ____

☐ 4. I am not available for full-time work or education at this time.

If you have checked number 2 or 4, do you intend to continue your education?

Yes ____ No ____

Thank you! Now add any comments and slip this in the envelope and send it to us.

THE CORRELATES OF UNDERGRADUATE STUDENT ATTRITION

Dr. Matt W. Steele
Associate Director
Institutional Research
University of Miami
Coral Gables, Florida

Presented at
Tenth Florida Statewide Conference
on Institutional Research June, 1977

THE CORRELATES OF UNDERGRADUATE STUDENT ATTRITION AT THE UNIVERSITY OF MIAMI (FLORIDA)

The purpose of this study is to determine what changes, if any, can be made in the environment of a particular university, which may increase retention. Increases in retention will be beneficial to both the students and the University. Although not all studies of retention can be classified as either completely emphasizing characteristics of the University or characteristics of students, most such studies seem to be basically concerned with student characteristics. Aiken (1964), Astin (1973) and Brabant and Garbin (1976) are examples of studies in which student characteristics are of primary concern. Such an emphasis is, of course, not misplaced; however, from the viewpoint of a particular institution the characteristics of its students are relatively unchanging. Therefore, if anything is to be changed in an attempt to increase retention, it will have to be the University itself.

This raises the question of which aspects of the University should be changed. For example, could students be leaving because of dissatisfaction with cafeteria services, or with the library or with life in the residence halls or possibly with their academic progress? It is necessary to compare the attitudes of returning students to the attitudes of transferring students in order to determine whether satisfaction-dissatisfaction toward such facets of student life, are correlated with retention. Retention is defined here as being enrolled in one fall and returning in the following fall. Students who return the following fall are referred to as "returning students". Students who do not return are referred to as "transferring students" or "non-returning students".

In the present study, 31 aspects of university life are studied for possible correlations with retention. At a minimum it may be possible to determine where not to invest resources in programs designed to increase retention and at most, programs whose effect is to increase retention, may be discovered.

Method

Subjects

The subjects were 2665 undergraduate students enrolled at the University of Miami in the academic year 1972-73. Their average age was 21 years; 90% were full-time; 15% were male; 38% were from the State of Florida. The sample is large because analyses of many other subgroups of students were planned. The other analysis are not reported here.

Questionnaires

Four separate questionnaires were used. Approximately one half of the items on each questionnaire were demographic and one half were attitude questions. There were a total of 31 items concerning attitudes toward university life in three major areas: academic life, social life and student services. The 31 attitude items were distributed about equally among the four questionnaires. In addition, each questionnaire contained an item concerning plans to return or not return the following fall. All items were answered by choosing one point on a five point scale representing degree of satisfaction, degree of adequacy or probability of return. The middle point on each scale was "cannot say", "undecided", or "no opinion". Each questionnaire contained a total of 19 items. The questionnaires were on mark-sense forms and were analyzed by computer;approximately 650 students completed each questionnaire.

Procedure

The questionnaires were completed during the course of a survey on the main campus of the university at Coral Gables. Student field workers were paid to solicit responses at various locations on the campus. The field workers were instructed as to how to make the selection of students as random as possible. For example no students were solicited who were in groups which had assembled for special purposes such as a class, an athletic event etc. Most of the students who completed the questionnaire were going to or from class. Approximately one tenth of the sample was collected during evening class hours.

It was estimated by the field workers who collected the data that only 10% of the students who were asked to complete the questionnaire, refused to do so. It is realized that ideally, a random sample of students would be contacted by mail, telephone or visit and asked to complete the questionnaire. However, the only one of the latter options available to me, was to use a mailed questionnaire; and in the past, mailed questionnaires have yielded a return of between 20% and 30% from University of Miami students. So the choice was between a refusal rate of 10% with a field survey and a non-return rate of 70% to 80% with a mailed questionnaire.

RESULTS

Each question concerning attitudes toward an area of student life was correlated with plans to return to the university, in a 2 X 2 Chi Square test. The midpoint responses of "undecided" etc., were excluded in the analysis of each question and the two responses on each side of the midpoint were grouped; the result was a transformation of the answer choices from five categories into two categories, for each question. If the Chi Square test was significant($p < .05$,)the area in question was assumed to be correlated with retention on a non-chance basis and the degree of correlation was derived by calculating the Contingency Coeffecient. Since all of the Chi Square tables were of the same dimension (2 X 2), the Contingency Coeffecient could be used to compare relative degrees of correlation across all areas.

In Table 1 the areas are grouped by perception of progress, faculty, planning assistance and social life. Within each group the areas are ranked from the highest relationship to retention to the lowest relationship as indicated by the Contingency Coeffecient. The three columns under "Percent Dissatisfied" include the percent dissatisfied for returnees and transfers combined, and also include the percent dissatisfied for each of these groups separately. A total of 12 areas were found to be correlated significantly with retention. ($p < .05$)

In Table 2 the areas of university life which are not correlated significantly with retention are given. They are grouped by student services, residence halls, planning assistance and concern about finances. Within each group the areas are ranked from high to low according to the percent of dissatisfaction for returning and non-returning students combined. There was no need to indicate the percent dissatisfaction for returning and non-returning students separately. Since the differences in percent dissatisfaction between the two groups for each of these items was not significantly different at $p < 05$, it was necessary to assume that they could be equal in percent dissatisfaction. A total of 18 areas are not correlated with retention.

Table 1

Areas of Student Life Which Are Correlated ($p. < .05$) With Attrition

Area	N[a]	Percent Dissatisfied			Contingency Coefficient
		All Stds.	Stds. Leaving	Stds. Returning	
Perception of Progress					
Toward Academic Goals	488	25	45	16	.285
Toward Career Goals	392	26	47	18	.285
Faculty					
Quality of Faculty	520	23	38	18	.192
Availability for Consultation	428	29	43	24	.185
Quality of Courses	519	22	32	19	.126
Involvement Outside Class	288	57	73	55	.125
Assistance in Planning					
For College Expenses	265	43	59	38	.181
For Careers	277	47	60	33	.161
Selecting Major Courses	503	37	46	33	.119
Selecting Non-Major Courses	429	50	59	46	.119
Social Life					
In Residence Halls	174	63	79	60	.146
Friendliness of Students	350	45	59	43	.113

[a] The N'S are smaller than the number of persons answering each questionnaire because middle or neutral responses were excluded.

Table 2

Areas of Student Life Which Were Not Correlated (at $p < .05$) With Attrition

	Percent Dissatisfied for all Students in Sample Combined	
Student Services	Percent	N[a]
Administrative Services	81	313
Services for Commuter Students	71	258
Information Concerning Services	63	280
Registration for Courses	55	299
On-Campus Recreation	49	344
Health Center	41	249
Cafeteria Services	40	205
Guidance Center	39	239
Security Services	36	186
Off-Campus Recreation	28	268
Library Services	15	339
Residence Halls		
Suitability for Study	64	301
Residence Hall Staff	40	353
Compatability with Roomate(s)	16	260
Assistance in Planning		
For degree requirements	46	307
Selecting a major (not courses)	43	256
Academic Advising (overall)	43	327
Financing College Expenses		
Concern about Ability to do so	64	284

[a] The N'S are smaller than the number of persons answering each questionnaire because middle or neutral responses were excluded.

It can be seem in Table 1 that the students' perception of progress toward academic and career goals has the highest correlation with retention. The overall dissatisfaction with progress toward academic goals is relatively low (25%); however, 45% of the non-returning students expressed dissatisfaction toward academic progress while only 16% of the returning students were dissatisfied. The same general pattern of responses occured for the four items related to faculty --- a relatively low overall percent dissatisfaction with faculty, but significant differences in dissatisfaction between returning and non-returning students.

In the area of assistance in planning, four items were correlated with retention while, as can be seen in Table 2, three items in the planning assistance area were not correlated with retention. The planning assistance items were designed to be component areas of academic advising. However, the item phrased "academic advising" was itself not correlated with retention (see Table 2). Another somewhat inconsistent finding was that "assistance in planning for college expenses" was correlated with retention while "concern about financing college expenses" was not correlated with retention. Although 64% of all students expressed concern about finances, the ones who planned to return showed as much concern as those who planned to leave. In the area of social life, two items were correlated with retention - social life in residence halls and "friendliness of students."

In Table 2 it can be seen that none of the service areas were correlated with retention although the dissatisfaction of all students combined reached a high of 81% in the case of administrative services. More recent studies have shown the dissatisfaction with the areas shown in Table 2, to be much less than it was in 1972.

Three areas of life relating to residence halls were not correlated with retention although one of them, "suitability for study", was found to be unsatisfactory by 64% of all students combined.

In interpreting the results of this study it should be borne in mind that the presence of correlation between attitudes toward an area and retention does not demonstrate conclusively that dissatisfaction toward the area is causing students to leave. The presence of a correlation does mean that the area is a likely candidate for causing attrition. However, the absence of a correlation implies that the area by itself is not a cause of attrition.

Discussion

The purpose of the study is to locate areas of University life which may be correlated with retention and which may be subject to change. An additional objective is to locate areas which are not correlated with retention.

The correlates of retention are primarily in the academic area. In particular, student satisfaction and dissatisfaction with perceived progress toward academic and carees goals has the highest correlation with retention. On the other hand no area in students services is correlated with retention. Several items in the area of student social life are correlated with retention.

The areas which would be most easily changed by university policy - the student services areas - are not correlated with retention. However, this does not mean that student dissatisfaction toward these areas should be ignored.

There may be some possibility of change in the social areas; however the most fruitful area for further exploration would seem to be in the area of student academic and career goals, and how students progress toward these goals.

In closing it should be noted that the above findings and conclusions apply to one particular university, and that the aspect of the study which is most likely to be of value to other universities is the methodology by which any college or university may assess specific areas of its environment for possible correlates of retention.

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PLANNING COMMUNITY COLLEGE GENERAL EDUCATION PROGRAMS THROUGH THE DELPHI TECHNIQUE

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Tenth Florida Statewide Conference
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Planning Community College General Education Programs Through The Delphi Technique

Introduction

In an age where institutions of higher education are searching for identity and also are required to be accountable for their effectiveness we find fewer and fewer tangible and definitive management tools being applied to program development within individual institutions. The problem has been brewing for a quarter of a century. The wave of participative management ideas that flourished in the decades of the 50's and 60's did not bring with it the tools for program implementation. Recent developments in management practice, however, have surfaced some specific techniques that could be of use. These methods have centered on planning and forcasting for the most part, such as, computer simulation, operations research, and the Delphi technique. This article discusses the application of one of these tools (the Delphi technique) to a planning problem in community college general education program development.

In many community colleges, program requirements are often decided by outside agencies, copied after university curriculums, or prescribed by state law or regulation.[1] Tobe truly community responsive, however, community colleges should develop their own curriculum. College practitioners can be guided by what others have done, but the distinctive character of the courses and the framework in which they are to be taught should be worked out in the college itself in cooperation with the community.

Particularly with broad programs such as general education the development of program products* can be highly subjective and biased unless more objective techniques are employed in their formulation. Industrial organizations have utilized objective techniques of this nature for some time in the areas of planning and forcasting. One strategy, Delphi, holds promise for facilitating the development of general education program products while at the same time enabling an institution to maintain consistency in the products it develops.

Background

In Florida during 1973 through 1975, Dr. Myron R. Blee, of the Division of Community Colleges in the

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*Products include aim (or goal) statements, objectives, and learning experiences.

State Department of Education and Drs. P.A. Fredrickson and Johnnie Ruth Clarke of St. Petersburg Junior College, initiated and carried out plans for two statewide general education conferences. These conferences led to a pilot project that utilized Delphi to generate program products for community college general education programs. Ten Florida community colleges were represented at these conferences. The theme of the conferences was "Performance Objectives--A Rationale for General Education." Discussion at these meetings focused on the feasibility of utilizing the concepts of task analysis and performance objectives (1) to develop a new design for general education and/or (2) assess the validity and adequacy of existing general education programs.[2]

Conference participants perceived the current status of general education to be highly questionable and surfaced a need for a mechanism to identify general education goals that could be operationalized into objectives and actual learning experiences.[3] Representatives from St. Petersburg Junior College that participated in these Sea Gull Conferences recommended that general education be defined in terms of the goals to be achieved, and that some type of schemata be designed to follow through on the analysis of the content of a general education program.[4]

These participants also recommended a list of sixteen general education aims. The aims were classified into categories regarding the individual and the culture. The aims are:

"The well-being of each individual requires that he/she"

1. develop and maintain a sense of identity and worth.
2. perceive the realities of his/her immediate and extended environment.
3. protect himself/herself from natural and man-made hazards and foster his/her health.
4. be able to express himself/herself.
5. establish and maintain relationships with other people.
6. acquire and utilize goods and services.
7. utilize leisure time.
8. respond to the expectations of self and others.

"The well-being of any culture requires provision for"

1. maintaining a body of widely shared values, beliefs, and aspirations.
2. communication among its members.
3. maintaining the health and vitality of its people.
4. protection of its people.
5. production and distritution of goods and services.
6. education of its people.
7. conservation and use of natural resources.
8. organization and governance.[5]

These recommendations were to become part of the state-funded project that tested and demonstrated the utility of Delphi for the generation of performance objectives for programs of general education. St. Petersburg Junior College was the site selected for the project.[6]

St. Petersburg Junior College was singled out for participation because of several reasons. For example, the college had recently expressed interest in refining its general education requirements. It had been in operation for several decades and many years had transpired since St. Petersburg Junior College had examined the question of general education. Questions about general education programs appeared to have no readily available answers at the college or at any other college in Florida. The questions were:

1. What is general education?
2. Should each student that enters the institution be afforded the opportunity to have a general education?
3. Should the course work required for success at the University be the general education requirement?
4. Can objectives be spelled out for general education?

St. Petersburg Junior College's struggle with the questions of general education emerged at a time when the legislature was mandating that all institutions of higher education in the state of Florida move toward a system of planning, programming, budgeting, and evaluating (PPBS).[8] The state was requiring the development of goals and objectives for all programs and for the colleges to carry out PPBS evaluation processes. The re-examination of the goals and objectives for general education appeared to be a logical outgrowth of the emerging system of accountability.

St. Petersburg Junior College was a most suitable site for an innovative approach to general education. In 1974 the college entered into a contract with the Division of Community Colleges of the Florida Department of Education to provide services to test and demonstrate the utility of a model for the generation of performance objectives for programs of general education.[9] The contract specified a project group to test and demonstrate the utility of a Delphi model for the generation of performance objectives for general education. The director employed to manage the project added other dimensions to the project that included the development of a system for designing curriculum. This Delphi oriented system was designed to be utilized by the college not only to identify goals and objectives but to also develop learning experiences for education programs offered at the college.

The Delphi Technique

Delphi is a forcasting tool that utilizes an iterative questionnaire process and enables the soliciting and collecting of expert opinion with regard to plausible future events.[10] Because of its objectivity, the Delphi technique appeared to be the method most suitable for this general education goal determination project. The significant features of the Delphi technique are that it provides anonymity, statistical summaries, and controlled feedback that permits and encourages the reassessment of initial judgment through an iterative process.[11]

The Delphi technique has been described as

> ...a method for the systematic solicitation

> and collation of expert or informed opinions. Instead of using the traditional approach towar achieving a consensus through open discussion, this technique replaces direct debate by a carefully designed program of sequential individual interrogatives (best conducted by questionnaire) interspersed with feedback of the information and opinion derived, including computed consensus from the earlier parts of the program. Its intent is to treat systematically, efficiently, and indepth, information contained in individual judgments, and to put that information into useful form.[12]

Stephen P. Hencley and James R. Yates summarized the Delphi process in their book, Futurism In Education. They begin by describing the activities of a panel of experts that is asked individually to respond to a questionnaire and make independent judgments about an issue. Open-ended questions raised by these individuals can be used for purposes of assessing needs about the issue. Their first questionnaire results are analyzed and a second questionnaire is developed using these results. The same panel responds to the second questionnaire. Items about which opinions are desired and statistical summaries may be contained in this second questionnaire. Participant responses to the second questionnaire are based on reconsideration of previous answers in view of the feedback information. Respondents with extreme individual forecasts, upper and lower quartiles, are asked to reconsider their forecast and to give a rationale for the response if it still falls outside the interquartile range or is shifted to the upper or lower quartile. These previous questionnaire responses are summarized again in statistical terms and incorporated into a third questionnaire. Respondents are again requested to reconsider and revise their responses and to summarize the rationale that supports their position if it continues or should shift to the outside of the second round interquartile range. The process is iterative and is repeated until consensus is obtained. Consensus is defined as the median of the responses to the final round.[13]

The Project

The St. Petersburg Junior College project consisted of three major phases. In the first phase administrators and faculty were asked to identify and agree (via Delphi) to broad goals for general education programs in community colleges for the next ten years. The second phase was the Delphi pilot testing to develop objectives for selected general education priority aims. The third phase was a Delphi pilot testing to develop learning experiences for selected priority objectives. The three phases included a total of nine administrations (Rounds) of Delphi questionnaires.

The Phase I, Round #1 Delphi questionnaire consisted of thirty aim statements that were rated by participants on a 1-5 scale as imperative or not imperative for general education. The questionnaire was reviewed by a small panel of experts for clarity and relevancy before it was administered to the project participants.

The Phase I, Rounds #2 and #3 questionnaires consisted of the Round #1 aim statements, participants identified aims, and controlled feedback on results from the Round #1 and #2 questionnaires respectively. Feedback was typical of that used in other Delphi studies. The feedback consisted of frequency polygrams that displayed participant responses to each aim statement, and a listing of individual participant comments to each statement or a synthesis of the comments when the list was exceedingly long. Participants considered the information and then proceeded to rate each statement again. When a participant's second or third response was outside the boundaries of the median score a reason for the rating was included.

The Phase II, Rounds #1, #2, and #3 questionnaires consisted of fifty objective statements generated by the study group participants for three priority aims. The participants rated each objective on a 1-5 scale, _1_ indicating that the objective was absolutely necessary for the general education aim and _5_ indicating that it was not necessary for the general education aim. The Phase II, Rounds #2 and #3 questionnaires consisted of the original fifty objective statements, controlled feedback, and a request for a new rating of each statement by each participant.

The Phase III, Rounds #1, #2, and #3 questionnaires consisted of twenty-seven learning experiences generated by study group participants for three priority objectives. The participants rated each learning experience statement on a 1-5 scale, _1_ indicating that the learning experience was appropriate for the general education objective, 5 indicating that it was not appropriate for the general education objective. The Phase III, Rounds #2 and #3 questionnaires consisted of the original learning experience statements, controlled feedback from the previous questionnaire rounds and a request for a new rating of each statement by participants.

Project Findings

First round results for all three phases showed that the faculty and administrators initially agreed to 12(36%) out of a possible 30 aims, 8(16%) out of a possible 50 objectives and 7(25%) out of a possible 27 learning experiences. This agreement was below the required threshold for consensus (less than 50%). See tables 1, 2, 3, and 4 for summaries of consensus aims, objectives, and learning experiences on all rounds for phases I, II and III.

The results of the third-round questionnaires of each phase showed that faculty and administrators agreed to 27(81%) out of a possible 33 aims, 21(42%) out of a possible 50 objectives, and 16(59%) out of a possible 27 learning experiences.

TABLE 1

Results - Aims

	Consensus						Lacking Consensus	
	Imperative		Not Imperative		Total			
	#	%	#	%	#	%	#	%
Round #1	10	(30.3)	2	(6.06)	12	(36.3)	18	(63.6)
Round #2	21	(63.6)	6	(18.1)	27	(81.8)	6	(18.2)
Round #3	21	(63.6)	6	(18.0)	27	(81.8)	6	(18.2)

% based on a total of 33 aims, except on Round #1 where there were 30.

TABLE 2

Results - Objectives

	Consensus						Lacking Consensus	
	Necessary		Not Necessary		Total			
	#	%	#	%	#	%	#	%
Round #1	8	(16.0)	0	(00.0)	8	(16.0)	42	(84.0)
Round #2	8	(18.0)	0	(00.0)	9	(18.0)	41	(82.0)
Round #3	16	(32.0)	5	(10.0)	21	(42.0)	29	(58.0)

% based on a total of 50 objectives.

TABLE 3

Results - Learning Experiences

	Consensus						Lacking Consensus	
	Appropriate		Not Appropriate		Total			
	#	%	#	%	#	%	#	%
Round #1	7	(25.9)	0	(00.0)	7	(25.9)	20	(74.1)
Round #2	11	(40.7)	3	(11.1)	14	(51.8)	13	(48.2)
Round #3	13	(48.1)	3	(11.1)	16	(59.2)	11	(40.8)

% based on a total of 27 learning experiences

TABLE 4

Results - Consensus Aims, Objectives, and Learning Experiences

	Aims # %	Objectives # %	Learn. Exp. # %
Round #1	12 (36.3)	8 (16.0)	7 (25.9)
Round #2	27 (81.8)	9 (18.0)	14 (51.8)
Round #3	27 (81.8)	21 (42.0)	16 (59.2)
	% based on 33	% based on 50	% based on 27

Project Conclusions

Several conclusions were drawn from the data. The Delphi method produced by Round #3, Phase I, an increase in the number of consensus aims. A polarization of ratings also occurred on some of the aim statements. The aim that addressed the ability of persons to acquire and utilize goods and services produced polarized ratings by Round #3. This polarization also occurred for the cultural aim requiring provision for individuals to possess a common learning. Delphi forced agreement on some statements while for others it ended in polarization.

Participant comments on Phase I were quite informative. Uncertainty and ambiguity were reflected as participants extended statements in an attempt to make them more meaningful. Participant uncertainty was particularly evident on the aim statement that addressed vocational skills. It is interesting to note that participants encountered difficulty in rating an aim that has traditionally been accepted as a viable dimension of community colleges.

There was a great deal of participant uncertainty about the objective statements in Phase II. This uncertainty was reflected in the numerous shifts in mode (at least 19) on Rounds #1-3. The objective statements had been identified by participants and then edited. Although participants had a direct role in the formulation of these statements, it was not easy for them to reach consensus about them. By Phase II, Round #3, the modes for several statements (at least six) were still middle-of-the-scale categories. This had not been the situation in Phase I. Again, this position of the mode reflected participant failure to reach consensus about some statements.

On Phase III there were fewer shifts in mode (five) from round #1 through Round #3. Responses indicated that participants were more certain about learning experiences and aims than they were about objectives.

Implications

The project illustrates that more precision can be given to the evaluation of broad aim statements, objectives and learning experiences. Ambiguities and uncertainties about particular statements can be identified, and consequently a more meaningful consensus can be reached about such statements.

The process of converting aims (goals) into learning experiences is time-consuming and demanding for participants as well as directors of such activities, however, the time spent can lead to valuable products. The quest for valid and useable outcomes becomes effective where it is built on a firm structure. Without methods such as Delphi, it is highly probable that aims, objectives or appropriate learning experiences developed will be little more than paper exercise.

The method as tested in this project has utility for community college curriculum designing, particularly for broadly defined programs such as general education. It can be a means for successfully generating program aims, objectives and learning experiences. The Delphi method employs a strategy that allows professionals in the system to have a voice in the design of that system.

Several recommendations were made to improve weaknesses of the process of shared decision making of administrators and faculty. Typically administrators perceive their role as one of identifying aims and objectives in the curriculum planning process, and then perceive the role of faculty as converting these into learning experiences. A shared strategy involving both administrators and faculty is more likely to reinforce committment to the products as well as consistency in the products produced. The dual nature of the project group (administrators and faculty) did not appear to affect the quality of the group's interpersonal relations. Overall they worked well together.

Summary

The method identified and recorded in objective terms the degree of participant consensus as well as the nature of the conflicts, inconsistencies, and uncertainties in reaching this consensus. A strength of the Delphi method was that it structured and gave more direction to the meetings. It is also felt that Delphi produced a higher quality product than would have been obtained without structure. The method focused participant attention to the task at hand and contained procedures for eliciting responses necessary for completion of the task. Delphi has considerable potential as a tool for improving the structure and product of the planning dimensions of colleges. It should be viewed by practitioners as a viable alternative for helping institutions refine their goals.

Footnotes

[1] James W. Thornton, Jr., The Community Junior College, 3rd ed. (New York: John Wiley & Sons, Inc., 1972), p. 205.

[2] Working draft, Seagull Conference, An Approach to General Education, PP. 1-9.

[3] Ibid.,

[4] Ibid., p.1.

[5] Florida State Department of Education, Report On Services To Test and Demonstrate the Utility of a Model for the Generation of Performance Objectives for Programs of General Education to Division of Community Colleges (submitted by St. Petersburg Junior College, December 15, 1974), pp.1-2.

[6] Contract between the Florida State Department of Education, on behalf of the Division of Community Colleges, and the St. Petersburg Junior College Board of Trustees for the purpose of securing "services to test and demonstrate the utility of a model for the generation of performance objectives for programs in general education.

[7] Florida State Department of Education, Report, p.3.

[8] Ibid.

[9] Ibid.

[10] Delayne R. Hudspeth, Changing Role of the Pharmacist: A Delphi Forecast, funded and produced by Office of Education Development, College of Planning, Ohio State University, July 1974, p.3.

[11] John D. Ludlow, Evaluation of Methodology in the University of Michigan's Sea Grant Delphi Inquiry (Technical Report No. 22, MICHU-SG-72-202, the University of Michigan Sea Grant Program, February 1972, p.3.

[12] Marvin Adelson, "Planning Education for the Future: Comments on a Pilot Study, American Behavioral Scientist (March 1967), citing Theodore J. Gordon and Olaf Helmer, "Report on a Long-Range Forecasting Study" (The RAND Corp., 1964), p.2982.

[13] Stephen P. Hencley and James R. Yates, Futurism In Education (Berkeley, Calif.: McCutchan Publishing Co., 1974), p.98.

FUNDING AND CONTROL:
FACT OR ILLUSION

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FUNDING AND CONTROL
FACT OR ILLUSION

OVERVIEW AND PURPOSE OF THE STUDY

Issues of governance and control of educational enterprises were determined to call for analysis with a three-fold perspectives: logical, historical and predictive. The following questions illustrate:

- Does more state funding necessarily mean more state control? (logical)
- Has more state funding led to more state control? (historical)
- Will additional state funding lead to additional state control? (predictive)

A limited review of the literature identified a number of studies which spoke to the concerns of funding and control from these perspectives. From the review, a conceptual model was synthesized which incorporated a number of factors determined to be relevant to the issues. An analytical technique was then developed which can be used to aggregate historical or predictive judgements on specific enacted or projected policies, proposals, and implementation options, and provide a quantified measure of tendency toward greater or lesser control along several dimensions, along with a quantified value judgement as to the impact of provider agency acts upon recipient agencies.

The overall purpose of the study is to clarify the relationship between state funding and state control. This purpose comprises three tasks.

(1) To review evidence available from selected studies on governance and control.

(2) To develop a conceptual model which uses the research information to provide a basis for analysis.

(3) To present a multi-attribute utility analysis technique which attempts to operationalize the conceptual model for policy analysis purposes.

The model and analysis technique are offered for review and pilot testing. Wider testing and application with a larger sample of respondents may follow, if the information is determined to be useful for further analyses and for decision purposes.

1. GOVERNANCE AND CONTROL STUDIES

Three studies were located which addressed logical, historical and predictive questions. All three concluded that changing the funding of programs (not only in education but in other fields) represents only one of a number of mechanisms by which a provider, or superordinate, agency may exercise a degree of governance and control over a recipient (or subordinate) agency. The studies cited below provided both logical and historical bases for questioning the widely held view that state aid results necessarily in state control.

Kirst identifies "... six modes through which higher levels of government can affect local schools where education services are delivered to children: (1) Provide general aid ...; (2) Stimulate through differential funding ...; (3) Regulate ...; (4) Discover and make available knowledge ...; (5) Provide services ...; (6) Exert moral suasion."[1] The point is made that the Office of Education, from 1867 through 1958, stressed mode (5), with minor efforts through mode (2), while state governments historically stressed modes (1) and (3). In 1975, the differential funding route, mode (2), became the key mode for federal influence through bigger and bolder categorical programs and demonstrations. More recently, federal policy has relied more on modes (4) and (6). Kirst further observes that the federal government is moving toward exercising its influence through the federal judiciary. This suggests that a seventh mode -- the influence of the courts -- might appropriately be added to his list of six.

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[1] Michael W. Kirst. "The Future Federal Role in Education: Parties, Candidates, and the 1976 Elections" Phi Delta Kappan, October, 1976, p. 155.

A study by Fuhrman[2] indicates that there are four groups of factors which can limit the decision-making of district school boards: (1) Inter-governmental aid and non-educational expenditures; (2) State statutes and administrative restrictions; (3) Professionalism and unions; and (4) Court decisions. The study by Fuhrman took into consideration both federal and state aid and how those could affect or limit decision-making processes.

The summary and conclusions of Fuhrman's paper provide significant commentary on the logical and historical perspectives.

> "This paper has attempted to counter the fear that state equalization of school expenditures and taxation inevitably leads to a loss in local control. The argument was made that only certain aspects of fiscal control are threatened by even the most far-reaching proposals for school finance reform. Non-fiscal local control is not necessarily threatened at all. Local discretion is limited under the present system of reliance on local property taxes, and there is no evidence to support the claim that such discretion decreases as the proportion of state aid increases. States which have increased the amount of state contribution relative to local contributions have not experienced drastic reductions in local autonomy. In fact, the whole effort of taking an intensive look at the structure of education in a state may bring an increased awareness of present limitations of local discretion and a new dedication to preserve community flexibility. As in Florida, legislators can consciously seek to preserve and even heighten local autonomy.
>
> Finally, it is appropriate to conclude with the thought that local control may actually be enhanced when districts are relieved from constant worries about revenue. Consider the plight of a central city or poor rural school district which just cannot raise enought revenue to provide what its citizens consider a good education. Does that district really have control over the type and quality of education its students receive? The Fleischmann Commission on the financing of education in New York State, which recommended full-state funding for that state, made an extremely useful observation which is a fitting conclusion for this paper.

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[2] Susan H. Fuhrman "A Report Of The New Jersey Education Reform Project" Sponsored by: Greater Newark Urban Coalition, Inc., with the assistance of the National Urban Coalition, April, 1974.

> We believe that the freeing of the talents of local school board members ... from onerous revenue-raising ... should enable them to play a more appropriate role in educational policy planning and direction at the local level."3/

Levin and others in an Urban Institute paper also addressed the questions at hand. The Abstract of the study captures the essence of the study design and conclusions.

> "The lack of empirical data to prove or disprove this view has inhibited discussion of education finance reform. This study, although preliminary in nature, suggests that there is no relationship between the degree of state control and the proportion of state aid. In ten states with different levels of state aid, eleven dimensions of state control over local school board decision-making are examined, including curricular requirements, budgetary and taxing restrictions, state regulation of federal programs, regulations affecting personnel, and regulations concerning district formation, annexation, and consolidation.
>
> The study also includes a less detailed analysis of the relationship between the rate at which innovative educational practices were adopted in a state, the degree of state controls, and the level of state aid. The tentative findings are that there is little correlation between degree of state control and the rate at which innovations are adopted, but there is a positive relationship between the assumption by the state of a larger share of total non-federal education support and a high rate of innovation."4/

The findings of the three studies analyzed suggests strongly that the matter of governance and control of educational systems has a far broader base than merely control of the "purse strings." While various kinds of budget constraints are influential, there are also program constraints which operate in combination with budgetary influences upon education systems and serve as

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3/ Ibid, pp. 13-14.

4/ Betsy Levin, Michael A. Cohen and Roger Colloff "Levels of State Aid Related to State Restrictions on Local School District cecision-Making" The Urban Institute: Washington, D.C., February, 1973.

controls which affect operations and thus outcomes. Therefore, the answer to the question: "Does more state funding mean more state control?" seems to be "not unless you want it to, by building control into the policies and practices associated with the program." The magnitude of program control and the degree to which this control governs the education enterprise is a function of the way in which various restrictions are combined and the amount and intensity of each restricting factor.

2. A CONCEPTUAL MODEL FOR HISTORICAL AND PREDICTIVE ANALYSIS

There is no general agreement on what the state role in public, elementary and secondary education should be. Advocates can be found for increasing or decreasing state control, with corresponding decrease or increase in control by individual districts, schools and even teaching staff. One might view the phenomenon as continuum of values, with individuals and groups placed at various points, depending upon their interest in establishing state versus local control. The model suggested below is intended to provide a framework by which those interested in these issues may monitor the degree and direction of control which accompanies various manifestations of state governance, state action, and use of state resources.

The components of the conceptual model are synthesized from the information and conclusions of the studies reviewed in the previous section. The model represents a way of looking at what influences are operating in the policy/action process.

Dimensions of the Model

For purposes of this study, there are two primary dimensions -- Budget/Finance and Program -- along which state policy can be presumed to exercise influence. The outline below shows the sub-component of these two primary dimensions.

I. Budget/Finance

  A. Taxation and Revenue

  B. Allocation System Restrictions

  C. Reporting/Auditing Procedures

II. Program

A. Mandated Programming (Law/Rule)

B. Personnel Regulation (Law/Rule)

C. Technical Assistance (Access to Personnel and Materials; Philosophical persuasion)

D. Collective Bargaining (Professionalism/Unionism)

E. Interpretation of Futures and Policy Intent (Anticipated Benefit/ Compliance Persuasion)

F. Legal Precedents (Court decisions, legal opinions and threat of litigation)

Each of these sub-components on the two primary dimensions represents a potential means by which local policy and the consequent actions of educational personnel may be placed under some kind of control by a higher government agency. The influences may also be categorized along dimensions of motivation, which include fear (e.g. of reprisal from noncompliance, or of criticism for lack of professionalism or foresight) and desire to improve (e.g. willingness to change based on belief in result and benefits). For purposes of this study, however, these motivational dimensions are merely suggested.

3. AN ANALYTICAL TECHNIQUE

Description

To monitor the influence of policy-based actions along the two primary dimensions of budget and program, it is convenient to use a variation of the multi-attribute utility analysis technique, a methodology for policy level, decision-oriented evaluative research (Edwards, Guttentag, and Snapper, 1976).

The technique is designed to measure the perceptions of individuals on a given policy or set of policies as a tool for historical or predictive analysis to aid in decision-making.

In this type of analysis, a particular policy proposal or state action is examined by selected judges, representing various interest groups and philosophical views. Each of these persons makes a series of independent judgements, quantifying individual perceptions of the policy by placing value/utility weights upon various dimensions of control and benefit.

Four sets of weights would be applied in each policy dimension scale, representing judgements about the target policy along two sets of agency dimensions. One set relates to the way in which the ACTS OF THE PROVIDER AGENCY are perceived, and the other to the way IMPACT ON THE RECIPIENT AGENCY is perceived. The provider agency scales comprise value/utility dimensions for AUTHORITY/DIRECTION and for INFLUENCE and the recipient agency scales comprise dimensions for RESPONSIBILITY/INDEPENDENCE and CAPACITY. Each of the scales represents a value/utility continuum, anchored at extremes of negative and positive representations of the particular dimension. For example, one judge might rate a particular policy along the Resource Allocation System (B) policy dimension as follows:

PROVIDER AGENCY SCALE	RECIPIENT AGENCY SCALE
Authority Direction: +2	Responsibility/Independence: -1
Influence: +3	Capacity: -2

This is interpreted to mean that this judging perceives that the policy gives the provider agency a somewhat positive guidance, leadership and direction rather than negative interference and domination in the Resource Allocation System practices. The policy also gives the provider agency a somewhat helpful, motivating and encouraging INFLUENCE role. However, in terms of impact upon the recipient agency, the judge perceives that the policy would tend to move them more toward dependence, and reduce the RESPONSIBILITY and INDEPENDENCE of the recipient agency. It is also perceived as tending to reduce their CAPACITY, constraining or inhibiting them rather than contributing to their flexibility and responsiveness.

The policy dimensions pinpoint the particular features which comprise any overall rating. Since a given policy has both budget and program dimensions, the scales are subdivided so that each of the three budget dimensions and each of the six program dimensions can be rated as well. Thus, a battery of measures, involving the subcomponents of BUDGET/FINANCE (taxation and revenue, allocation system, reporting/auditing) and of PROGRAM (program mandates, personnel, technical assistance, collective bargaining, interpretation of futures and legal precedents) is available to provide decision information.

These weights can be summed and averaged across judges, to form either an overall score or a battery of scores, each of which represents a collective judgement. Each collective judgement score is the sum of all the objective and subjective data from the experience base of each judge. Such an examination for a given policy or action could be expected to approximate the reaction by the larger populations represented by each judge, and thus could be either a predictor of how the policy would impact, if and when implemented (for predictive analysis), or a review of perceived action and impact (for historical purposes).

The weights for individual dimensions can be examined and used in revising a proposed policy, either to clarify various features (and thus promote more positive perceptions) or actually to change these provisions which would tend to result in negative authority and influence, or negative impact upon a recipient agency, in terms of promoting responsibility and building capacity.

Application of the Analytical Technique

There are a number of ways in which the analytical technique can be applied, depending upon the purpose and scope of a question toward which the analysis is directed. A pilot test was carried out with selected staff in the Office of Educational Planning, Budgeting and Evaluation. This test helped to identify some of the potential strengths and limitations and the instruments developed to implement the analysis technique. The following observations can be made, based on the initial tryout experience.

(1) The most workable and valid application appears to be in analyzing a single policy issue or piece of legislation along the various

budget/finance and program dimensions for both provider agency and recipient agency scales. Aggregated scores here provide a useful measure of central tendency which can guide revision efforts and also suggest strategies for implementing a given policy so that a constructive approach - neither too rigid nor too vague - can be employed.

(2) Attempts to analyze several related laws along with the relevant rules and memos of direction may be workable, if the effect of this set of policies is actually felt as a single "program," with the various component policies directed to particular budget or particular program dimensions. An example of this could be the Teacher Education Center Act (231.600, F.S.) and the Educational Training Act (236.C811, F.S.).

(3) Modifications of the scale would most likely be necessary if the technique is to be applied to a number of programmatically unrelated laws, (e.g. Appendix A, listing all of the substantive legislation passed in a given year or set of years). While this theoretically can be done using the present format, the logistics of aggregation are somewhat unwieldy. Furthermore, it is anticipated that the analysis would need to be broken down in order to be interpretable. An overall composite score could be misleading, due to a number of statistical artifacts, such as regression effects (the tendency of scores to move toward an average) and the nature of the ordinal measurement (ranked data), since these measurement units are not subject to the same kind of mean "averaging" as in interval and ratio measurement.

SUMMARY AND CONCLUSIONS

The issues of governance and control of educational enterprises can be analyzed along the suggested categories of logical, historical and predictive analysis. While there are no definitive answers to the illustrative questions posed in the Overview and Purpose of the Study, some evidence exists and some techniques can be used to clarify the relationship between state funding and state control, and to address the three questions with at least some degree of optimism. The questions are listed below, and brief summarizing answers provided.

(1) Does more state funding necessarily mean more state control?

Answer: Logically, there does not appear to be an automatic state condition, unless there is a clear intent, along with an implementing mechanism designed to exercise control and influence through various budget and program channels.

(2) Has more state funding lead to more state control?

Answer: Historically, the evidence is to the contrary, at least according to the cited studies.

(3) Will additional state funding lead to additional state control?

Answer: To predict this, measures may be taken for monitoring the degree to which a policy has or is likely to be a vehicle by which various dimensions of control are being exercised. Using an analytical technique, the various tendencies, as perceived by the aggregated

(4) Use of the instrument may serve the additional purpose of raising the level of awareness relating to the budget/finance and program policy dimensions. It may also provide a vehicle for more thoughtful analysis of policy and issues, and for greater dialogue between and among groups involved in different phases of policy development and implementation.

(5) Application to a wider audience for a broader array of policies must be accompanied by careful attention to refinement of the instrument (identifying the need for modification such as combining, expanding and revising of dimensions) and the orientation of responsibilities. The present version is adequate in format for certain purposes, but awkward and difficult to handle for some others.

APPENDIX A

STATE POLICY AS PASSED BY THE 1973 FLORIDA LEGISLATURE

Chapter 73-225 (CSHB 212, 655 and 678)
Provided that remodeled buildings comply with standards and specifications established by Florida Department of General Services.

Chapter 73-19 (HB 309)
"Consultant's Competitive Negotiations Act" defines and establishes procedures for use of professional services, coverage includes school boards and districts (architect, professional engineer or registered land surveyor).

Chapter 73-261 (HB 425)
Provided for admission of children to the first grade at a time other than the first month of school.

Chapter 73-265 (HB 513)
This law provided that certain children may enter public school at an age earlier than allowed by present law.

Chapter 73-176 (CSHB 689)
Provides for a central registry for abuse of developmentally disabled persons.

Chapter 73-345 (CSHB 734)
This act established the Florida Education Finance Program, providing funds for current operations: district required local effort, transportation allocation, comprehensive school construction in-depth service allocation, and the provision of the state share of the FEFP. In addition, the law defined exceptional students, established a management information system, defined non-exempt property for school purposes. It was the legislative intent, as stated in the Florida Education Finance Act of 1973, to do the following: (1) to guarantee each student in the Florida public school system the availability of programs and services appropriate to his education needs, which are substantially equal to those available to any similar student, notwithstanding geographic differences and varying local economic factors; and (2) to increase the authority and responsibility of districts for deciding matters of educational organization and method, and to encourage district initiative in seeking more effective and efficient means of achieving the goals of the various programs; and to assume a greater share of the responsibility for state funding of school construction by providing a systematic plan whereby each district will be able to meet the increasing needs for satisfactory school facilities for all students, and to maximize the availability of the satisfactory student stations to meet the current and project needs of the districts and to remove the necessity of involuntary multiple daily specials; and (4) to encourage innovations in school design, construction techniques in financing mechanisms for the purposes of reducing costs and creating a more satisfactory environment for learning, and to direct the Department to continue the study of developments in the building industry, including the latest developments in construction methods and materials, in design, and in concepts, such as turn-key bidding, prefabricated construction, modular relocatable units, and standardized components; and (5) to facilitate a more thorough analysis of the State's financial support of public education and to provide a more accurate basis for educational management. (The Comprehensive Managment Information System)

Chapter 73-346 (HB 792)
This act was know as the Safe Schools Act of 1973 and provided for a school safety fund and a formula for the distribution of such funds, as well as the duties of school districts in administering the funds.

Chapter 73-162 (HB 899)
Provides principals with the authority to provide an alternative to discipline or expulsion for pupils formerly charged with unlawful possession or use of certain drugs.

Chapter 73-177 (CSHB 1230)
Provides for a misdemeanor of the second degree for persons knowingly disrupting of interfering with the education processes of educational institutions.

Chapter 73-164 (HB 1238)
This act provided that regular or special meetings of the district school board may be held anywhere in the county, under certain circumstances.

Chapter 73-137 (HB 1299)
This act provided that food service funds were excluded from the classification of internal funds and were to be deposited in the district school fund.

Chapter 73-172 (HB 1331)
Enacted the property assessment administration in finance law. This law increased the state role and recognized state responsibilities for fair property tax assessments. Included were provisions for the establishment of uniform standards and procedures and other system adjustments which would result in a more standardized administration of ad valorem taxes.

Chapter 73-173 (CSHB 2144)
Provides for the definition of the salaries of district school board members and district school superintendents, as well as other governmental personnel.

Chapter 73-95 (SB 161)
Provides for the annual election of a chairman by the school board.

Chapter 73-98 (CSSB 271)
This act provided that no public funds should be used for dues or contributions to any association, group or organization. The records of which were not open for inspection to any citizen of Florida.

Chapter 73-337 (SB 609)
This act provided that 25% of the textbook fund could be used by districts for textbooks not on the state-adopted list.

Chapter 73-338 (SB 622)
This act was known as the Omnibus Education Act. This act created a Bureau of Environmental Education, as well as an environmental education program. The act also provided for the establishment of teacher education centers with a state council and appropriation processes. Re-named and re-deployed comprehensive Health Education Act of 1973; broadened the scope of the community school program; leadership for school board members and school administrators; provided for the establishment of school advisory committess; provided matching funds for the support of elementary reading and language arts resource specialists, permitting school boards to issue continuing contracts to new teachers previously employed in a district within the state, established a pre-apprenticeship educational program in the public school system providing for school site planning and selection, minimum standards of size for new school sites and other minimum standards for school sites.

Chapter 73-235 (SB 1025)
Provides for the establishment and maintenance of student placement and follow-up services by district school boards.

Chapter 73-195 (SB 1187)
Provides for time-shortened educational programs at all levels of education.

STATE POLICY AS PASSED BY THE 1974 FLORIDA LEGISLATURE

Chapter 74-351 (HB 157)
This act provided for the definition of instructional and administrative personnel, as well as contracts with instructional staff.

Chapter 74-126 (HB 711)
This act provided for an exemption from sales tax events sponsored by schools or correctional institutions when only student faculty or in-mate talent was used.

Chapter 74-205 (HB 1145)
This act provided procedures to assure compatability between state assessment and national assessment, as well as limiting the application of educational accountability programs to the subject areas of reading, writing and mathematics.

Chapter 74-45 (HB 1174)
This act provided that the superintendent could have his office anywhere in the school district.

Chapter 74-315 (HB 1199)
This act provided for employment and duties of school principals. Included was the identification of the principal's administrative responsibilities in addition to instructional duties and rights and authority of school principals in performing their duties.

Chapter 74-132 (HB 1782)
This act provided for certain policies on school bus safety. Specifically eliminating children standing on school buses, providing exceptions under emergency conditions and providing districts to determine costs of providing transportation in hazardous situations within the two mile limit.

Chapter 74-100 (HB 2028)
This act implemented Section 6 of Article I of the Constitution of the State of Florida. The act provided the legislative procedures for organization and bargaining collectively.

Chapter 74-351 (CSHB 2263)
This act allowed school boards to set the salaries of superintendents above the maximum provided by general law.

CSHJR 2289 and 2984
This resolution proposed the amendment to Section 9 of Article XII of the State Constitution, which provided that the revenue derived from the gross receipts taxes should be used for capital outlay projects for the state system of public education.

Chapter 74-176 (HB 2346)
This act established a commission on ethics for officers and employees of state and local agencies, and provided for the authority and duties of that commission.

Chapter 74-339 (HB 2591)
This repealed the provision that as a condition for receiving monies appropriated for driver education, schools offering such courses were required to provide a physical screening examination of each enrollee.

Chapter 74-356 (CSHB 3208 and 3166)
This act provided a program of school health services and also required the Department of Health and Rehabilitative Services to carryout health appraisal and screening programs in the schools. This act was known as the School Health Services Act of 1974.

Chapter 74-167 (HB 3231)
This was the Florida Building Codes Act of 1974. This act provided for the establishment of minimum standard building codes for the State of Florida.

Chapter 74-139 (HB 3268)
This act permitted the payment by school boards of various insurance premiums.

Chapter 74-177 (CS for HB 3418)
This act provided standards of conduct for public officers and employees, candidates advisory board members, legislators and legislative employees and judicial officers.

Chapter 74-63 (HB 3536)
this act required that school safety patrol apparel be visible both day and night.

Chapter 74-292 (CSHB 3659, 3763 and 3879)
This act adopting the American National Standards Institute standard "making buildings and facilities accessible to and usable by the physically handicapped."

Chapter 74-227 (CSHB 3692)
This was the law dealing with the Florida Education Finance Program in 1974. The act defined the scope of the FEFP, revised the definition of full time equivalent students, amended minimum financial effort, fixed a base student cost, created a special program for deaf students, deleted funding of compensatory education, deleted a provision for supplemental ad valorem tax equalization, adjusted district cost differentials, provided for an expenditure for in-service education programs, provided for district required local effort, provided additional categorical programs, provided a procedure for the total state allocation to each district, provided comprehensive school construction program, computation of transportation funding, elementary counselor funding, providing limitation on district millage levies, defining exceptional students, providing for profoundly child program, revising teacher education center legislation, providing for in-service training programs, providing for special education support services, providing for student enrichment and remedial programs, providing an allocation for career education, providing for cost differential studies, providing for regional diagnostic and resource centers for exceptional students.

Chapter 74-234 (HB 4005)
This act related assessors and collectors of ad valorem taxes and provided for the adminstration of assessment programs by the Department of Revenue.

Chapter 74-374 (CSHB 4025)
This act established an Office of Educational Facilities Construction under the Commissioner of Education. This act was to be known as the Education Facilities Construction Act of the Murray H. Dubbin Act The intent was to provide a systematic plan for educational construction in each school districts, whereby school sites could be acquired educational requirements formulated and architectural plans and specifications developed so as to proceed immediately with the construction of educational facilities when funds are made available.

Chapter 74-198 (HB 4122)
The act added community colleges and local government employees to coverage under unemployment compensation.

Chapter 74-360 (CSSB 56)
This act established the State Board of Independent Post-Secondary Vocational Technical, Trade and Business Schools.

Chapter 74-173 (CSSB 77)
This act was the Free Enterprise and Consumer Education Act, which required the public schools to conduct a consumer education program.

Chapter 74-81 (SB 80)
This act provided for leave procedures for full time instructional personnel in school districts.

Chapter 74-238 (CS for SB 96)
It was the intent of the legislature, in this act, to provide a comprehensive evaluation and restructuring of early childhood education in Florida. Included was the requirement for districts to develop plans for early childhood education.

Chapter 74-362 (SB 158)
This act provided that no building be constructed without provision for future installation of solar hot water heating equipment.

Chapter 74-366 (SB 267)
Required the Department of Transporation to develop a uniform system of traffic and pedestrian control devices around school zones.

Chapter 74-337 (CSSB 492)
This act changed the name of the State Textbook Councils to Instructional Materials Councils. The procedures and methods for dealing with textbook allocations and distribution were also developed in this legislation. In addition, a revision of the Educational Research and Development Program was accomplished.

Chapter 74-364 (SB 887)
This act enlarged the scope of the community school program.

Chapter 74-310 (CSSB 892)
This was the Administrative Procedure Act and resulted in procedures and means for public inspection of rules promulgated by state and associated agencies.

Chapter 74-263 (SB 1068)
This act authorized the Commissioner to reallocate functions and reorganize organizational units within the Department of Education. The act also provided for the suspension of certain written reports pursuant to the authority of the State Board of Education.

Chapter 74-264 (SB 1110)
This act extended additional homestead exemption provisions for persons over 65 years of age on ad valorem tax levied.

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STATE POLICY AS PASSED BY THE 1975 FLORIDA LEGISLATURE

Chapter 75-152 (HB 209)
This act extended survivor benefits for members transferring from the teacher retirement system to the Florida retirement system.

Chapter 75-282 (CSHB 470)
This act provided for the elements to be included in a free enterprise and consumer education program.

Chapter 75-196 (CSHB 660)
This act provided for defining and requiring disclosure of financial interest by source for persons seeking public office.

Chapter 75-257 (HB 782)
This was the local government Comprehensive Planning Act of 1975.

Chapter 75-284 (CSCSHB 984)
This act was known as the Public Education Act of 1975. The act provided for early childhood and basic skills development plans, provided for inclusion of paid and volunteer workers within the meaning of teacher aid, permitted teacher aids to be non-certificated, provided standards for books used in public schools systems, provided for driver education, provided the substance of the Florida Education Finance program, including the amoung for current operation, cost factors, full-time equivalent students, directing DOE to project enrollments for special programs, provided for compensatory education, provided for district cost differentials, education training expenditures, district required local effort, categorical programs, transportation where in joint use, provides that local general purpose transportation systems can be eligible for payment for student transportation services, provides for study of alternative methods of financing, provides a maximum amount for exceptional student contracts, providing for compensatory education plan, minimum allocation for career education, sparsity supplement for qualified districts.

Chapter 75-306 (HB 1521)
Provides for six paid legal holidays for instructional personnel.

Chapter 75-270 (HB 1581)
This act lowered the age requirement to 70 for certain retirement benefits, with respect to incapacitated school teachers.

Chapter 75-292 (HB 1909)
Authorizes the State Board of Education to issue bonds in accordance with the provisions of the state constitution for educational facilities construction and fixed capial outlay projects.

Chapter 75-210 (HB 2124)
This is the State Manpower Planning Act, which implement the provisions the Comprehensive Employment Training Act (federal legislation).

Chapter 75-105 (SB 2)
Provides responsibility for governments to design and mark motor vehicle parking spaces for totally and permanently disabled persons, who use wheelchair for mobility.

Chapter 75-68 (SB 65)
This act requires the legal notice and advertising for tax increases.

Chapter 75-69 (SB 100)
This act provides for the creation of regional diagnostic and resource centers for exceptional students (Brevard and Okaloosa Counties).

Chapter 75-130 (CSSB 340)
This act implements a highschool equivalency diploma.

Chapter 75-244 (SB 589)
This act was known as the Student Service Act. It defined the student service program and required districts to develop a plan for the provision of such services.

Chapter 75-84 (SB 878)
This act requires the annual purge of mailing lists.

Chapter 75-191 (SB 1320)
This act amended the administrative procedures act, defining educational units and expanding the provisions of the APA.

STATE POLICY AS PASSED BY THE 1976 FLORIDA LEGISLATURE

Chapter 76-44 (HB 882)
This law authorizes district school boards to permit four days of sick leave annually to be used for personal reasons.

Chapter 76-86 (HB 3172)
This authorizes district school boards, athletic associations, and schools of the state to purchase athletic insurance through a surcharge to admission fees to athletic events.

Chapter 76-279 (CSHB 3957)
This act is known as the Government Employees Deferred Compensation Plan Act. The act outlines the procedures for offering defferred compensation programs to government employees

Chapter 76-131 (HB 4144)
Provides substantive amendment to the Administrative Procedures Act.

Chapter 76-280 (CSHB 4190)
Amends certain areas relative to pulbic education, capital outlay and debt service, and provides the allocation of the amount appropriated.

Chapter 76-223 (CSSB 107)
This act is the Educational Accountability Act of 1976. The legislative intent of this major act is to: (1) provide a system of accountability for education in Florida, which guarantees that each student is afforded similar opportunities for educational advancement without regard to geographic differences and varying local economic factors; (2) provide information for education decision-makers at the state, district and school levels so that resources may be appropriately allocated and the needs of the system of public education met in a timely manner; (3) provide information about costs of educational programs and the differential effectiveness of differing instructional programs so that the educational process may be improved continually; (4) guarantee each student in the Florida system of public education that the system provides instructional programs which meet minimum performance standards, compatible with the state's plan for education; (5) provide a more thorough analysis of program costs and the degree to which the various districts are meeting the minimum performance standards established by the State Board of Education; (6) provide information to the public about the performance of the Florida system of public education in meeting established goals and providing effective, meaningful and relevant educational experiences designed to give students at least the minimum skills necessary to function and survive in today's society.

Chapter 76-4 (CSSB 158)
This act grants full authority and responsibility to district school boards for decisions regarding school construction, contracts and payments.

Chapter 76-259 (SB 321)
This was the law implementing the Florida Education Finance Program for 1976. The base student cost was renamed to base student allocation and the general substance of the FEFP remained the same.

Chapter 76-99 (SB 377)
Requires the display of flags in publicly supported and controlled auditoriums.

Chapter 76-18 (CSSB 417)
Requires the statement of contributions by elected public officers.

Chapter 76-234 (CSSB 512)
Relating an act to ad valorem taxation. Provides detailed information on the administration of ad valorem tax policy by state and local governments.

Chapter 76-236 (CSSB 575)
This act relates to student conduct and discipline. Requires the school boards to develop a code of student conduct and requires the code to be made available to various persons. The bill provides for various definitions and procedures to be used by superintendents and school boards in dealing with school discipline problems.

Chapter 76-214 (CSSB 814)
This act provides for definitions of managerial employees relative to collective bargaining.

Chapter 76-276 (CSSB 949)
This act amends the Administrative Procedures Act and provides that agencies are required to estimate the economic impact of proposed rules and set forth the estimates in a public notice.

Chapter 76-224 (SB 1047)
This act requires state and county officers to deposit funds received into the state or county treasury within seven working days.

Chapter 76-78 (SB 1117)
The act provides for deposit by agencies into credit union, bank or savings and loan plan.

Chapter 76-168 (CSSB 1156)
This is the Sunset Law or the Regulatory Reform Act of 1976 which requires legislative review of programs and functions regulating professions, occupations, business industry and other endeavors.

State of Florida — 1977 **SB 169** 23-322-7

By — Senator Castor

This public document was promulgated at a cost of $4.94 per printed page for 800 copies to inform the legislature and the public of proposed legislation.

A bill to be entitled

An act relating to public schools; creating s. 236.088, Florida Statutes; enacting the "Florida Compensatory Education Act"; providing procedures for allocation and expenditure of funds for compensatory education for public school students; providing for evaluation of compensatory education programs; amending s. 237.34(3)(b), Florida Statutes, 1976 Supplement; providing for expenditure of compensatory education funds; repealing s. 236.081(2), Florida Statutes, relating to computation of compensatory supplemental cost factor under the Florida Education Finance Program; providing an appropriation; providing an effective date.

WHEREAS, the "Educational Accountability Act of 1976" requires the establishment of minimum student performance standards in the basic skills areas of reading, writing, and mathematics by the State Board of Education, and

WHEREAS, the act also requires annual statewide testing of all public school students in grades 3, 5, 8, and 11 to determine the extent to which such minimum standards are being met, and

WHEREAS, the act further limits the advancement of students found to be deficient in the basic skills areas until specialized remedial assistance is provided to compensate for and correct the deficiency, thereby effectively curtailing the practice of social promotion, and

WHEREAS, beginning with the 1978-1979 school year, the achievement of minimum levels in reading, writing, and mathematics, along with the demonstrated ability to functionally apply these basic skills to everyday living, will also be required as a prerequisite for high school graduation, thereby restoring credibility in public school diplomas, and

WHEREAS, it is the announced goal of the Legislature to guarantee each student in this state similar opportunities for educational advancement without regard to geographic differences and varying local economic factors, and

WHEREAS, the accomplishment of this goal will require the provision of special remedial programs for those students who are ineligible for either promotion or graduation because of inability to meet minimum skills or literacy requirements, and

WHEREAS, provision of these special programs will require the expenditure of funds beyond those generated and allocated through the basic cost factors in the Florida Education Finance Program, and

WHEREAS, while implementation of such programs will require additional appropriation of state funds on a short-term basis, the net results of the proper application and expenditure of such funds should be more cost-effective in dealing with deficiencies in the basic skills areas of reading, writing, and mathematics than the more expensive current alternative of nonpromotion, NOW, THEREFORE,

Be It Enacted by the Legislature of the State of Florida:

Section 1. Section 236.088, Florida Statutes, is created to read:

236.088 Basic skills compensatory education supplement.--

(1) SHORT TITLE.--This section may be cited as the "Florida Compensatory Education Act."

(2) ALLOCATION OF DISTRICT ENTITLEMENT.--

(a) Before December 1 of each year, the Department of Education shall, on the basis of the current year's assessment results, compute for each school district an estimate of the number of students enrolled in basic programs who are deficient in one or more of the basic skills areas of reading, writing, and mathematics.

(b) The annual legislative appropriation for the compensatory education program shall be allocated by the department to each district on a proportional basis in relation to the total number of such students identified statewide.

(3) EXPENDITURE OF FUNDS.--

(a) All funds allocated pursuant to subsection (2) shall be expended by the school districts for the purposes designated in paragraph (b) and only in accordance with a plan approved by the Department of Education pursuant to rules adopted by the State Board of Education. Such rules shall be designed to maintain consistency with applicable federal law and regulations so as to maximize the use of, and prevent the impairment, interruption, or loss of, any federal funds allocated to the state for compensatory education for public school students.

(b) Funds generated for compensatory education shall be expended solely for the purpose of supplementing earned basic funds in conducting remedial programs for those students who have been identified, pursuant to criteria adopted by the

State Board of Education, as being deficient in one or more of the basic skills areas of reading, writing, and mathematics. Such programs may be scheduled outside the regular school year.

(4) REVIEW OF PROGRAMS.--The Commissioner of Education shall, as a part of the program evaluations conducted pursuant to s. 229.565, periodically examine district compensatory education programs to verify compliance with this section and the rules adopted pursuant hereto and shall include his findings, together with an evaluation of the effectiveness of such programs, in his annual report under s. 229.575(1).

Section 2. Paragraph (b) of subsection (3) of section 237.34, Florida Statutes, 1976 Supplement, is amended to read:

237.34 Cost accounting and reporting.--

(3) PROGRAM EXPENDITURE REQUIREMENTS.--

(b) Funds for inservice training established in subsection 236.081(4), for compensatory education established in s. 236.088, and for categorical programs established in subsection 236.081(6) shall be expended for the costs of the identified programs in accordance with the rules of the state board.

Section 3. The sum of $30,000,000 is appropriated from the General Revenue Fund to the Department of Education for the 1977-1978 fiscal year to carry out the provisions of this act.

Section 4. Subsection (2) of section 236.081, Florida Statutes, is hereby repealed.

Section 5. This act shall take effect July 1, 1977.

* * *

SENATE SUMMARY

Enacts the Florida Compensatory Education Act which provides for allocation of state funds to the school districts to provide compensatory education for public school students who are deficient in one or more of the basic skills areas of reading, writing, and mathematics. Allocation is made to each district on a proportional basis in relation to the total number of such students identified statewide. Directs the Commission of Education to periodically examine district compensatory education programs and to make an evaluation of the effectiveness of such programs in his annual report to the Legislature. Appropriates $30 million for the 1977-1978 fiscal year.

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ASSESSING INSTITUTIONAL CHANGE:
DECISION-MAKING TOOLS

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ASSESSING INSTITUTIONAL CHANGE: DECISION-MAKING TOOLS

The change process in education has received considerable study primarily because of a concern with its slowness and inefficiency. It has been estimated (Mort, 1964) that educational innovations typically take up to four decades to complete the adoption process. Miles (1964) compares the spread of innovations in education unfavorably with these in industry, agriculture and medicine. Since the rapid and successful diffusion of a new educational innovation is neither easy nor common, the people responsible for diffusing them need rapid and accurate reporting of the progress that is being made. Impact assessment is the on-going process of evaluating and reporting on the dissemination/diffusion process in relation to the ultimate goal of installing the product among the target population.

In order to understand how impact assessment can contribute to the dissemination/diffusion process, it is first necessary to understand what is known about that process, and the model that is being used to conduct it.

Theories--Most theories of educational change emphasize structural and organizational factors. One of the major descriptions is a synthesis of a number of contributors' work done by Miles (1964). The U.S. educational system is viewed as a national system with a number of subsystems. Graduate departments of education have the most influence in the system. Since it is a national system the spread of innovations is expensive and difficult. A number of factors contribute to a slow rate of diffusion. Among the systemic causes are lacks of hard data (Johnson, 1964 reported that of 1507 school districts receiving NDEA Title III funds, only 10 had carried out research based evaluations), lack of change agents and lack of economic incentives for people within the system to innovate. Myths of local autonomy and individual professionalism are viewed as concealing a large bureaucaratic system which also impedes progress. Innovations which are characterized by high unit or initial cost, are not suitable for commercial production or are "research" tend to spread slowly. Innovations with support services, high innovation-system congruence, or facets which increase autonomy and peer support are likely to spread quickly. Innovators are seen as coming from outside the existing system. Within the system authority figures are the key. The creation of temporary sub-systems may help by-pass internal blocks. The surrounding context may help overcome or reinforce organizational inertia depending on its exact nature. Shifts within the organization may create an internal need for change, but this is viewed as occuring rarely.

Griffiths (1964) proposed a system theory of organization which emphasizes an organization's tendency to maintain itself against changes. As viewed by this theory changes are the result of outside pressure. The degree and duration of change is directly related to the pressure for it. Response to a continuously increasing pressure on the organization is no change, then over-compensation and (if the pressure is maintained) collapse. The number of innovations adopted is inversely related to the length of tenure of the head of the organization. Also the more heirarchical an organization is, the less likely it is that it will adopt changes. When change does occur, it is more than likely to emanate from the organization's head. In summary this theory sees the organization as basically resisting change. Appointment of outsiders as head of the organization, especially with strong exterior support for innovation will help produce change. The longer the tenure of the head, the more heirarchical the organization and a low level of internal conflict will heighten the resistance to change.

A recent article by House (1976) also stresses organizational and structural characteristics. Innovation is seen as primarily depending on face-to-face contact. Face-to-face contact depends, in turn, on organizational structure and lines of physical transportation. The superintendent and his key staff are central to the change process because they are in position to have most outside contacts. Since innovations generally come through the central staff, its politics have an important bearing on whether innovation will occur. One necessary condition for the success of an innovation is for it to gain an advocacy group within the organization. While the central staff is key, it is important to realize that innovation is unlikely to come from the bottom. Teachers have limited access to outside contacts as well as few tangible rewards or incentive for innovation. The contingencies that govern the behavior of the teacher, the administrator and the reformer are likely to be very different. This makes what seems rational to one, ridiculous to the others. Innovation can be enhanced (or decreased) by increasing (decreasing) the incentives for change. Figure 1 summarizes the forces operating to aid and impede education mentioned by these authors.

Characteristics of the individual can also have a major impact on the change process (Bailey, 1976). This point of view is based on transactional psychological theory (Kilpatrick, 1961). Transactional theory suggests that the diffusion process should be both gradual and sustained. The pace of change should maintain a gap between the actual conditions and the person's expectations arising from past experience that is great enough to be stimulating but not enough to render actions ineffective and frustrating. Measurement of the gap should be in terms of actions required in the new situation. Maintenance of sustained, gradual change is likely to produce a new set of expectations that support change if the people remain in the organization. To the extent that these expectations are developed, the pace of change can then be speeded. Verbal training is likely to be ineffective. Training geared to the actual actions required is the most effective. Training incorporating observation of the new actions may be cost-effective in certain situation. Incorporating the involved individuals in the planning for change can also help reduce

	Increase	Decrease
House, 1976	1. Increase outside contacts	
	2. Increase incentives	
Griffith, 1964	1. Outside support	1. Heirarchical organization
	2. Organizational head from outside	2. Head of organization with long tenure
		3. Functional subsystems
Miles, 1964	1. Innovations that are materials	1. Lack of hard data
	2. Implementation support	2. Lack of incentives
	3. Innovation/ system congruence	3. Lack of change agents
	4. Increase in user	4. Bureaucratic organization
	5. Innovator from outside system	5. High cost
	6. Use of temporary systems	6. Not suitable for commerical distribution
	7. Outside support	

Figure 1. Factors indentified by theorists.

the problem. To the extent that this occurs the gap between their expectations and the new conditions will be reduced. This lowers their resistance to change and increases their effectiveness in the new situation.

Research--Besides the factors mentioned in these general descrip- of the change process, a number of factors have been indentified by specific research. Mort's (1964) extensive research led him to the conclusion that innovation was closely related to the economic status of the surrounding community. More recent research Carlson (1965) found that the rate of adoption was closely related to characteristics of the superintendents who were adopters of innovation as well as non-adopters. This research also failed to support some earlier findings that the rate of adoption was related to characteristics of the innovation itself. When innovations were rated as to their relative advantage over existing practices, compatability with the existing values, complexity, ability to be used on a limited basis and communicability the ratings failed to provide a strong guide to the rate of adoption.

Findings by Lukas and Wohlleb (1972) tend to support the idea that implementation is aided by support services. In studying the implementation of Head Start planned variations, they found that implementation was related to the amount of sponsor involvement, training of model personnel, amount of sponsor feedback, sponsor involvement in areas other than directly related to the model, and school administrative efficiency. However, even with these factors relatively constant there were still considerable differences in receptivity from school to school.

Another research approach is the case study of an individual innovative educational organization. Watson (1964) described the creation, life and ultimate closure of the New College on the Columbia Teacher's College betweeen 1932 and 1938. It was founded and supported by Columbia. It attempted to apply the ideas that individual differences are important; actual learning should be evaluated; the students should be active participants; a breadth of experience should be sought and the faculty and students should work in close association. Watson indentified a number of problems that arose. There was considerable insecurity among both students and faculty. This was partly a cause and a result of frequent program revisions. Students and faculty were selected from among the disaffected. This resulted in a continuing revolt. The structure worked to create additional financial burdens on both student and faculty. No attempts were made to contact outside groups that were likely to be supportive. As a result there was little outside support, and any deviant behavior was taken as a sign, by outsiders, that the experiment had failed. There was a strong internal pressure to minimize recognition of any external threats to the existence of New College.

A similar experiment on the elementary level was studied by Smith and Keith (1971). In this case the school superintendent strongly supported a radical new conception of the elementary school. Support included the creation of a new building as well as temporary insulation from some of the constraints of existing policy.

In this case the innovators chose to pursue a policy of multiple changes through the creation of a number of temporary subsystems and the use of staff with little committment to the existing system. Among the changes attempted were an open plan school, team teaching, democratic administration, and individualized curriculum and instruction. Beside the temporary exception from school policies, other temporary subsystems included a month-long Summer workshop for the entire faculty, T-groups, and outside consultants. The staff was purposely choosen to be young, inexperienced, and largely unknown to each other. This was done in order to avoid the resistance to change that can be offered by the informal organization of a school. However, the planners did not anticipate the ineffectiveness of the staff due to the requirements of getting acquainted, lack of teaching skills, etc. Smith and Keith (1971) conclude that a long-term, incremental approach is superior to a massive, short-term attempt to change the system.

Other investigators have focused their attention on characteristics of the individual. In studying alternative schools, Argyris (1974) has indentified characteristics of the existing cultural model which tend to act at cross purposes to the verbal therories existing within some of the schools. Specifically, the characteristics of the existing cultural behavior model include achieving the person's own goals as he perceives them, personal gains while minimizing losses, minimizing elicited negative feelings, and being rational and unemotive. This cultural model conflicts in many ways with the philosophy espoused by the schools studied by Argyris.

Resistance to innovation within the public schools may be an unanticipated consequence of the socialization process (Anderson, 1968). New teachers must serve a probationary period in order to achieve tenure. During this period the teachers tend to play it safe. They also tend to adopt the personality characteristics promoted by a bureaucratic organization, such as formal, impersonal, legalistic conduct. Anderson's findings also tend to support the structuralist positions of Miles (1964).

THE DISSEMINATION/DIFFUSION MODEL

Based on this evolving set of data and theories (Rogers, 1962) as well as on an increasing base of practical experience, a dissemination/diffusion model has been developed.

Goals--There are two principal goals of the D/D process:

1. Informed Decision- All people who could benefit have sufficient information to make an accurate decision about the worth of the product or service relative to other available alternatives.
2. Successful Adoption- Those choosing to use the product have sufficient information or training to make the transition from their current activities to successful long-term use.

Process--The process described here is designed to be a general one adaptable to a variety of situations. In many cases segments of the process can be dropped for products or activities that do not require full treatment. This process is geared to diffusion planing and does not necessarily describe the actual states that a client may go through within his or her own mind.

This process consits of five steps. Each of the actions in the process requires certain actions of the client to produce the changes in client knowledge and affect that is necessary to carry the process through to a successful conclusion.

Awareness--Is an activity that informs the client of the existence of the product and what types of client needs that it can satisfy.

With awareness activities the initiative is primarily in the hands of the advocate, but the client does have to pay enough attention to actually receive the message. The awareness message should produce a link the product with the type of needs that it can meet in the client's mind. It need not produce any positive emotional change.

Interest--Is the activity that makes the client aware of the product's qualities that make it special for the client. To the extent that the product is truly better than the existing alternatives for the client, those superior qualities have to be made known to the client. Again the client is primarily passive at this stage. The key is to successfully get his or her attention so that the message can be communicated. The client's knowledge of the special advantages of the product for him should be accompanied by a mild positive affect toward the product.

Examination/Trial--Activities designed to give the client a knowledge of the product's advantages and disadvantages relevant to his use of it. While the previous actions produced only enough client knowledge to spark an interest in the product. The information obtained through examination or trail should be all the necessary information about the product upon which to make a decision about its use. At this stage the initiative shifts toward the client. The advocate would like to be able to furnish the client all the information necessary to make the decision. But since it is not possible to know all the relevant factors for each client, the client has to add these dimensions. The less that the advocate can or does know about the client, the more difficult it will be to provide the correct information. If the previous stage has been successfully accomplished the client will seek out the additional information that he requires. The client's knowledge of the advantages and disadvantages of the product for him should result in a positive affect toward the product.

Decision--Activities to facilitate the client's decision process. At this point the initiative has largely shifted to the client. The client must weigh the advantages and disadvantages of using the product relative to the alternatives available to him. The advocate may be able to facilitate the process through providing incentives for a speedy decision and/or information indicating the advantages of a speedy decision, if any. For complex decisions, the advocate may facilitate the decision by giving the client a suggested process which will help him weigh all the relevant factors. In the end if the clients' decision process has resulted in the selection of the product, it should seem best to him.

Implementation--Activities to make possible the client's full use of the product. After the client has decided in favor of the product, he should know what it can and cannot do for him. But he may not know how to actually realize those gains. The more elaborate the product, the more complex the implementation process will be. At the end of the implementation process, the client should have a detailed working knowledge of the product and feel that it is the best available for him.

Examples--Examples of standard dissemination/diffusion and market or advertising techniques are included in Table 1 to illustrate each of the activities.

Table 1

Examples

Action	D/D	Market
Awareness	Awareness Poster Flyer	Coca Cola Sign Display Ad
Interest	V-Tech's Brochure	Most Media Advertising
Trial	Free Distribution	Introductory Sample
	Field Trial	Test Drive
Decision	Letter	Salesman's Pitch
		Expiration of Introductory Offer
Implementation	In-Service Training	Product Instructions
		Customer Service Engineers

Possible Breakdowns in the Process--This process can breakdown in many ways. Some of the more obvious are listed here. The breakdowns listed here are focused on ways people who can benefit are missed. It largely ignores the problem of people who do not benefit that are included. The assumption is that techniques for matching products to people will not only work to include beneficiaries but also to exclude non-beneficiaries of product qualities. It should be recognized that while this is likely to be true of strictly factual presentations, it is probably less true of presentations that are designed to be persuasive.

Awareness Breakdowns

1. Wrong Audience--Activities that fail to identify the people who can benefit from the product.
2. Wrong Media/Vehicle--Selected media does not reach the target audience.
3. Wrong Format--The presentation fails to capture or hold the attention of the target audience.
4. Wrong Content--The presentation fails to present the product in terms of the audience need that it will be beneficial for.

Interest Breakdowns

1. All of the awareness breakdowns also apply to interest activities.
2. Not Distinctive--The product is not distinctive or special in the way presented.

3. Wrong Distinction--The special quality stressed is not relevant to the audience.

Examination/Trial Breakdowns

1. Cannot Try--Interested people cannot get further information with a reasonable effort.
2. Insufficient Information--The examination or trial does not result in a knowledge of all of the product's advantages and disadvantages.
3. Trial Process Aversive--The examination or trial process is itself unpleasant in a way that is not related to the product.

Decision Breakdowns

1. Insufficient Information on Alternatives--Information on alternatives is insufficient or wrong.
2. Bad Decision Process--The client does not have a good decision process.

Implementation Breakdowns

1. Wrong Information--The client is provided with instruction or aid that is wrong or inappropriate to the situation.
2. Insufficient Aid--The client is not provided with enough assistance to make the transition successfully.

Dissemination/Diffusion Strategies--There are a number of diffusion strategies. To review them briefly, there are a number of strategies based around the use of workshops including:

1. A single statewide workshop.
2. Regional workshops

3. Training workshops--Where developers train additional people to give subsequent workshops.
4. Summer workshops.

Other strategies include the use of demonstration or pilot programs, slide/tape presentations, video-tape, direct mail of the products to the target population, and the use of teacher educators to train teachers. A variety of other activities are also presented. The relation between these D/D activities and the stages of the D/D process is presented in Table 3.

Role of Impact Assessment--The rapid and successful diffusion of a new educational innovation is neither easy nor common. In order to be successful the people responsible for diffusing an educational innovation need to know what progress is being made, what is going right and what is going wrong. Impact assessment is the on-going process of evaluating the dissemination/diffusion process in relation to the ultimate goal of installing the product among the target population.

Impact assessment can contribute to the success of dissemination/diffusion efforts in a number of ways. Every step of the diffusion process implies an impact assessment. The results from those impact assessments are fed back to the diffusion planners as the basis on which they proceed or revise. Impact assessment also contributes to diffusion planning. Past data generated by impact assessment can serve as the basis on which planners choose their diffusion strategies for a particular new product that is to be installed. Over the long term impact assessment results can serve as

Table 3

Diffusion Strategies

Strategies	Aware	Interest	Trial	Decision	Use
Workshops--			X	X	
Statewide			X	X	
Regional			X	X	
Training			X	X	
Summer			X	X	
Demonstration		X	X		
Slide-tape		X	X		
Video-tape	X	X	X		
Product Direct Mail	X	X	X	X	X
Teacher Educators	X	X	X	X	X
Brochures	X	X			
Catalog			X		
Student Catalog			X		X
Topic Flyer		X			
Model			X		
Site Sign	X	X			
Yellow Pages	X	X			
News Releases	X	X			
Bumper Stickers	X	X			
Advertising	X	X			
Advisory Board					X
Community Meeting	X	X			X
Conference	X	X	X	X	
Community Presentations	X	X			
Community Survey	X	X			
Facility				X	
Program Operation					X
Classes	X	X	X		X
Person-to-Person	X	X			

the basis for revisions of the over all diffusion system. Finally impact assessment, when conducted systematically over time, provides data that can be used to bring accountability to the dissemination/ diffusion process.

Relation of Impact Assessment to Product Evaluation--The role of impact assessment is to revise and assess the dissemination/diffusion process. As such the final measure for impact assessment is whether or not the people in the target group were able to make an informed decision about the adoption of the product being diffused. In this role the impact assessor is focusing on the dissemination/ diffusion process. In contrast product evaluation is concerned with the degree to which the educational product can achieve its planned objectives with a minimum of negative side-effects. While their focuses are different, data from each process is relevant to the other. The merits of the product clearly have a lot to do with its adoption. Strong data supporting a product's merit can be very useful to the dissemination/diffusion effort. Product evaluation data can help impact assessment account for the success or failure of the product dissemination and diffusion. Conversely, impact assessement data can be useful to the product evaluator in planning the final product evaluation. Lots of happy users are a good clue although not proof of a product's merit. Where products have not been diffused as widely as hoped, impact assessment data may point to possible product problems that the product evaluator should study.

Impact assessment does have a product evaluation role in evaluating dissemination/diffusion products. D/D products are materials whose role is to facilitate the adoption or use of another product. Examples of D/D products are such things as slide/tapes introducing a product, workshop materials explaining product use, introductory pamphlets and media materials. Such things have positive effects only to the extent they promote the use of educational products. As such the only possible criterion for evaluating them is the dgree to which they facilitate the D/D goal of informed decision and use.

IMPACT ASSESSMENT PROCESS

Assessment Questions--Since this impact assessment model is part of a diffusion model, it has a stable set of concerns that it must regularly address. The five basic assessment questions flow out of the diffusion process itself. They are:

1. Awareness--What proportion of the target population is aware that the product is available? Awareness in this context means knowledge of the product's existence and the general category of user needs that it can fulfill.
2. Interest--What proportion of the target group is interested in trying out the product?
3. Examination/Trial--What proportion of the target population has actually tried out or examined the product?
4. Decision--What proportion of the target population has decided to use the product?
5. Implementation--Did the adopters actually have the skills and knowledge to successfully implement the product within the constraints of their situation?

Beyond the questions implied by the diffusion model, assessing the effectiveness of the dissemination process completes the basic impact assessment questions.

Very few impact assessments will be limited to just these basic impact assessment questions. Normally the impact assessment will also be concerned with specific characteristics of the target population that relate to the success of the D/D process.

Assessments of the effectiveness of specific D/D activities and/or materials are necessary to provide the basis for future D/D planning and system revision.

While the functional concerns of impact assessment are stable, its methods will and must vary considerably. Different products, target populations, D/D plans, available resources and intellectual and political climate will dictate different approaches. In fact a stable, routine methodology will, almost by definition, not produce satisfactory results.

Data Collection Methods--Since impact assessment is in its infancy, there is no body of authoritatively accepted methodology to rely upon. The general body of educational research and evaluation methods must be examined and revised for use in impact assessment. Their acceptance as standard tools should await clear demonstrations of their utility for impact assessment.

1. Structured Questionnaires--Structured questionnaires are paper and pencil devices which ask the respondant to answer questions within the scope of some pre-determined category of possible respones. They have the advantage of being direct and to the point, easy to fill-out and simple to process and interpret. They are not good for detecting either the unexpected or the unpleasant. Questionnaires are not expensive, but they generate most of their costs in direct ways such as materials, postage, and computer time.
2. Open-ended Questionnaires--Are also paper and pencil devices,

but people are asked to respond in their own words to questions which are more general than those found in structured questionnaires. Open-ended questionnaires are more useful at eliciting information that was not expected. However, they take more time to answer and require analysis that is not straight-forward and must be done by hand. Because analysis is judgemental, samples and instruments are normally kept small. If this is done, both material and personnel costs are small.

3. Telephone Survey--Is a short list of questions that are used when questioning the person over the phone. It has the advantage of allowing a trained questioner to pursue a line of questioning on the spur of the moment. This can be a way to eliciting information that was not expected and that the respondent might not·have given under different circumstances. This can be very useful in identifying unexpected successes as well as problems. Telephone surveys are not efficient ways of collecting large amounts of routine data. They should be used as heuristic devices rather than as the main data collection vehicle. For an institution having a WATS capability, the only cost is personnel time and the tying up of the telephone line(s) used.
4. Site Visit/Personal Interview--Can be both structured or unstructured face-to face discussion with an involved person. It has all the advantages of a telephone survey plus the

ability to establish rapport and probe into greater depth. It is not an efficient way to get routine data. It requires a trained and knowledgeable person to be effective. Within the resources currently available it must generally be utilized as a spin-off of other planned activities.

5. Knowledge Assessment--Is, in effect, a paper and pencil test attempting to determine the level of knowledge that the members of the target population have concerning the product and how to use it. Generally such an assessment would take the form of conventional structured response tests, e.g. multiple choice or true/false. Another option that would fit well as a part of a large opinionnaire is to formulate the questions in a format similar to opinion items, but where there is a correct opinion. This type of question may be somewhat less threatening than more conventionally formulated test items. Paper and pencil tests have approximately the same advantages and disadvantages as structured response questionnaires with the exception that the statistical processes for establishing reliability and validity are more fully developed for test of knowledge.

Implications for Impact Assessment--The factors indentified by the theorists and researcher reviewed earlier should also be considered in the impact assessment of dissemination and diffusion efforts. They provide a basis for understanding the total context within which the diffusion efforts are being made. To facilitate the process of identifying the status of these factors with respect to a particular diffusion effort, they have been compiled into two seperate checklists. (See appendix for Structural Factors Checklist)

The structural factors checklist consists of items relating to unchanging aspects of the situation affecting the diffusion process. Its purpose is to provide a summary of the relative difficulty of a particular diffusion effort. It consists of nine categories:

1. Outside Support--6 items
2. Nature of the Organization--9 items
3. Characteristics of the Innovation--6 items
4. The Decision-maker--4 items
5. User Characteristics--5 items
6. User - Innovation Match--5 items
7. Student Characteristics--2 items
8. Student - Innovation Match--5 items
9. Innovation - Culture Match--2 items

The responses to each of these items can be totaled to produce an overall score. The higher the score the more factors that are working toward a successful diffusion process. A lower score indicates that a number of the structural factors do not favor successful diffusion. Naturally that will make the diffusion process less likely to succeed.

The diffusion strategy checklist identifies a number of activities that can be included in the diffusion plan. As such it is a measure of the magnitude of the diffusion effort itself. The diffusion strategy checklist contains five categories:

1. Outside Support--3 items
2. Diffusion System--12 items
3. Decision-maker--3 items
4. Users--7 items
5. Students--5 items

This checklist is also designed to be summarized by a single score. A high score indicates that a maximum diffusion effort is being made. Since a greater effort is likely to increase the chances of a successful diffusion process, a high score indicates a greater chance of successful diffusion. A lower score indicates a lower level of diffusion effort and consequently a lower chance of successful diffusion.

The two checklists are designed to be used together. High scores on both checklists indicate a good chance of successful diffusion. Low scores on both instruments indicate less chance of successful diffusion. These checklist scores can be combined with other measures of the magnitude of the task and of the resources. For instance, the structural factors score can be combined with estimates of the number of users in the target population. By the same token the diffusion strategies score can be examined in light of the actual money and people assigned to the diffusion effort. For example, one diffusion effort might concern itself with a small target population for which the structural factors seemed to favor their acceptance of the innovation to be diffused. If that situation were combined with a strategy that produced a high score on the diffusion strategy checklist and was backed by ample resources in terms of people and money, successful diffusion would be assured.

Impact Assessment Uses--These checklists can be used by the person conducting impact assessments in a number of ways. If the impact assessor is involved in the diffusion planning process, these checklists can be used to review the diffusion plan. The structural factors checklist can be used to identify anticipated problem areas. Combined with the size of the target population, it can be used to assess the magnitude of the task facing the diffusion planners. With this in mind the diffusion strategies checklist can be used to review the diffusion plan. This review can suggest the likelihood of success as well as the balance between the task to be accomplished and the resources devoted to that task. Where the available information suggests that there is a major discrepancy between the task and the resources, the impact assessor may be able to work with the diffusion planner to bring the two into closer alignment.

Once the diffusion effort is under way, these checklists can help the impact assessor interpret the results of the data that he has gathered on the success of the diffusion effort. The first step may be to revise the scoring of the checklists based on the data obtained through impact assessment. Once this is done the checklists can again be used to determine the size of the task in relation to the efforts devoted to accomplishing it. This is important to a correct interpretation of the impact assessment data. For instance the impact assessment may show that a moderate amount of progress being made. If the size of the target population was small, the structural factors favorable, the diffusion strategy, elaborate and the resources substanial; the conclusion would be that moderate progress was unacceptable. The diffusion process should be reviewed to determine what was the problem. On the other hand in the more likely circumstance of a large target population, unfavorable structural factors, a simple diffusion strategy and limited resources, moderate progress might be a great success. Considering these factors will make the feedback by the impact assessor to the diffusion people much more valuable.

This same sort of process should be incorporated in the recommendations for system revision that are contained in the final report of a particular impact assessment. The major difference is that a longer term view is necessary. This will result in more attention being paid to the ways that structural factors can be changed.

Strengths and Limitations--The strengths of these checklists are their research base and ease of use. They incorporate the insight, research and experience of a number of experts writing over a fifteen year period. At the same time the checklists have limitations. While they are research based, they have not themselves been tested. Specifically, the summary score is a construct that has not been tested for its validity or utility. The research on which the checklists are based is itself subject to change and revision based on new research findings. The impact assessment process is an excellent vehicle for this kind of testing and revision. However, the checklists are no better than the accuracy of the perceptions of all the people using them. Greater knowledge of the situation and more experience in dissemination, diffusion and impact assessment will increase the accuracy of those perceptions. Naturally as new data comes in it should be included as well.

Types of Reports--There are three basic types of reports of impact assessment results. These three basic types can be adapted for special purposes.

A full impact assessment report will normally be close in size and format to an educational research report since its function is basically conveying knowledge gained. It will differ in that it has a decision summary aimed at reporting essential information to the relevant decision-makers. Besides the decision summary it will normally contain an introduction, assessemnt questions, methods, results and discussion sections. This report is geared to meeting the needs for information in the areas of long range planning, system revision, accountability and product evaluation.

A decision summary is a short (two or three page) document focusing on the key findings and recommendations resulting from an impact assessment. These are keyed to the needs of the decision-maker for which the summary is intended. This is a more action rather than knowledge oriented report. Its primary use is for products which still have active diffusion efforts and require immediate information. It can also be used as an accountability document when no further actions are planned or as an interim report when waiting for the full report would delay the process of providing information to the decision-makers.

The final type of report is the profile, It is a one page document with little or no verbiage. Its purpose is to provide a rapid summary of the current status of a product along the dimensions of awareness, interest, evaluation/trial, decision, and implementation. This data would be provided in either tabular or graph form. If there is easily presentable information on process breakdowns that would also be included. This report is keyed to rapid response to the needs of decision-makers an/or planners concerning the diffusion status of a particular product. The profile would also be useful as an accountability document for minor products.

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APPENDIX

DIFFUSION PLANNING CHECKLIST

STRUCTURAL FACTORS

Innovation- Briefly describe the innovation ______________________________

____

Instructions: For each question, check YES or No based on your best estimate of the situation.

Yes	No	
		1. Outside factors-
___	___	a) Is there support (actual or potential) for the product from people or organizations outside the school?
___	___	b) Is the support active now?
___	___	c) Can the innovation be adopted without conflicting with external legal controls, e.g. state mandated curricula?
___	___	d) Can materials for use with the innovation, be obtained without external approval, e.g. without state approval?
___	___	e) Can the innovation be adopted without conflicts with accreditation standards?
___	___	f) Does the innovation avoid a conflict with requirements for subsequent schooling or employment?
		2. Nature of the adopting organization-
___	___	a) Is the organization primarily rewarded for producing results?
___	___	b) Within the organization is authority to adopt the innovation at or near the user?

Yes	No	
___	___	c) Does the organization seem to have a high level of administrative efficiency?
___	___	d) Does the organization have history of being both receptive to and successful with innovative practice?
___	___	e) Are most people within the organization not guaranteed life-long employment?
___	___	f) Does the organization have a moderate, neither high nor low rate of turnover of personnel?
___	___	g) Are a high percentage of people assigned to jobs relevant to their background, interests and skills?
___	___	h) Is there a unit within the organization responsible for promoting change?
___	___	i) Does the organization allocate specific resources to promoting change?
		3. Characteristics of the Innovation-
___	___	a) Does the innovation incorporate support services available to user's attempting to implement the innovation?
___	___	b) Is the innovation a set of materials rather than a set of behaviors?
___	___	c) Is the innovation low cost?
___	___	d) Is there hard data supporting the results claimed for the innovation?
___	___	e) Is the innovation suitable for commercial distribution?
___	___	f) Is it available commercially?

Yes No

4. The decision maker- relevant to the adoption of the innovation (may be superintendent, district staff, principal, etc.)

___ ___ a) Do the relevant decision-makers tend to be young?

b) Have they been in their positions a relatively short period of time?

___ ___ c) Are they fairly professional (formal education, attend professional meetings, etc.)?

___ ___ d) Do they seek advice from sources outside their immediate colleagues?

5. User characteristics- the people who actually use the innovation on a day-to-day basis.

___ ___ a) Do they tend to be willing to take risks rather than playing it safe?

___ ___ b) Do their rewards come primarily on the basis of producing results?

___ ___ c) Do they have a history of being able to adapt successfully?

___ ___ d) Do the users have a number of sources of information relevant to general subject area of the innovation?

___ ___ e) Will the users be in contact with other users?

6. User- innovation match-

___ ___ a) Does the innovation utilize existing user's skills rather than require them to develop new skills?

Yes	No	
___	___	b) Does the innovation tend to increase user's (independence)?
___	___	c) Is the innovation non-threatening?
___	___	d) Is the innovation likely to fit into the user's existing frame of reference rather than requiring them to adopt a new one?
___	___	e) Does the innovation lighten the user's workload?
		7. Student characteristics- (if students use or are substantially affected by the innovation).
		a) Do they tend to be willing to take risk rather than play it safe?
___	___	b) Are they primarily concerned with learning?
		8. Student- innovation match-
		a) Does the innovation utilize existing skills rather than requiring the student to develop new skills?
___	___	b) Does the innovation fit the student's existing frame of reference rather than requiring them to adopt a new one?
___	___	c) Does the innovation increase student independence?
___	___	d) Does the innovation lighten the student's work load?
___	___	e) Is the innovation non-threating?
		9. Innovation-culture match-
___	___	a) Does the innovation fit in with the existing cultural values?
___	___	b) Does it utilize common patterns of behavior within the culture?
________		10. Summary- total number of "Yes" responses (41 maximum).

ISSUES AND DECISIONS FACING INSTITUTIONAL RESEARCHERS IN PREPARING FOR LIFELONG LEARNING

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"ISSUES AND DECISIONS FACING INSTITUTIONAL RESEARCHERS IN PREPARING FOR LIFELONG LEARNING"

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When President Ford signed into law the Education Amendments of 1976, the general feeling among educators was one of relief. This relief came because virtually all of the programs initiated by the Higher Education Act of 1965 were restored with authorizations from three to six years. Including, most importantly, the basic structure of federal financial assistance to students. But tucked away in the bill were a series of interrelated provisions with potentially a far reaching impact on the character of American education.

To the original Title I of the 1965 Act, there was added a new "Part B -- Lifelong Learning," which began with a plainly worded set of Congressional "findings:" that "the American people need lifelong learning;" that it is crucial to their personal well-being, workplace skills, and participation in national life; that it takes place not just in educational institutions, but through avenues ranging from independent study to the efforts of business, industry, and labor; and that "planning is necessary" at all levels of government to achieve the "goal" of lifelong learning opportunities for all citizens![1]

The concept of accessibility in education is one of the most exciting educational ideas prevalent today. The idea that schooling is not just for the young, that there is no such thing as a terminal diploma or terminal degree, that academic credentialing can in fact be divorced from strict residence requirements, that academic work completed successfully in previous incarnations can be of current value[2] -- these and a whole series of other values can be realized through the lifelong learning concept or through non-institutionalized postsecondary delivery systems.

If we were to look at only one aspect of non-instituionalized postsecondary education, we can get a feel for how complicated the issue may be. We will use the concept of educational brokering as an example. The term brokering comes from the business world where a person, a broker, is hired to act as an agent or intermediary who brings the buyer (the student) into contact with the seller (the educational institution). The product sold or contracted is the educational programs. The main thrust of educational brokering is service to the student, but it can serve other purposes as well. In providing a diversity of educational opportunities to the student, brokering arrangements by contracting with various postsecondary education institutions can utilize the facilities and resources of many agencies; thus, providing economy of operation. A brokering arrangement, by combining the services of several institutions located in the same area, can also provide greater educational coverage of a geographic region without the establishment of new educational facilities.

There have been many designs developed recently for non-institutionalized postsecondary education delivery systems -- counseling referral services, certificate and/or associate degree programs, bachelor degree programs, and graduate level programs. Regardless of the design of the delivery system, the concept of accessibility to education is gaining impetus and shows a change from the traditional accent of selectivity to accent on access.

Educators are gradually recognizing their responsibility for assisting every individual to seek a continuing program that matches his abilities and interests. However, educators are just beginning to understand that this does not mean a traditional four-year college for everyone. For many, continuing education will not be a "college" at all in the usual sense of that term. For others, it will involve more than a four-year program. According to James E. Allen, Jr., former Commissioner of Education for New York State:

> "We shall need to understand that the hallmark of an educated man is not the diploma or the degree received at the end of a prescribed period of study, but rather the individual fulfillment, commitment, and wisdom which constitute the true definition of education. Equal educational opportunity is meaningless as a national goal unless it yields these results."[3]

In the State of Florida, the Florida Postsecondary Education Commission has already begun to concern itself with state planning for lifelong learning. The concern was ignited by a recent study on "Access" in the State of Florida. According to the study, of the 8.4 million residents in the State, 5.8 million are beyond the age of seventeen (17) and are potential clients of postsecondary education. A key recommendation from the aforementioned study was the establishment of regional educational outreach centers to coordinate continuing education programs and to work affirmatively and cooperatively with business, industry, government, educational institutions, and various community agencies and groups to plan and implement specific programs.

With this knowledge as a vanguard, the Florida Postsecondary Education Commission initiated a conference to share state policy and planning strategies for lifelong learning. The Commission felt that a conference of this nature would be both important and timely because of the recent enactment of the 1976 Education Amendments. The Commission, therefore, invited four other agencies to cosponsor this national conference -- the Education

Commission of the States, the National Center for Educational Brokering, the Postsecondary Education Convening Authority, and the State and Regional Higher Education Center at Florida State University.

Representatives of the five cosponsoring agencies met in Washington, D.C. in an effort to outline specific issues for the conference. Three specific issue areas were identified: (1) the concept of educational brokering, (2) the phenomena of non-institutionalized postsecondary education delivery systems, and (3) state policy planning for lifelong learning.

The National Conference was held in February of this year and drew state and federal officials from thirty-seven (37) states, the District of Columbia, the Virgin Islands and Puerto Rico. There were several major concerns at the Conference. The first one is definition: what precisely does the national government have in mind by its "goal" of "lifelong learning" for all Americans? Title I, Part B's language is global in character; it authorizes studies and a report (the assistant secretary now has a skeleton force at work), but what is supposed to happen next? As Aims McGuinness of ECS described it, the Education Amendments "have a paralyzing effect on states;" some have extensive commitments to "lifelong" programming, some little or none, but most are now in a state of pause while seeking new clues from Washington.

Problem two is that educator awareness of the Amendments' lifelong learning provisions is low. Neither of education's two most widely read sources of information from Washington -- the Chronicle of Higher Education and National Affairs devoted space to Part B of Title I in their coverage of the bill.[4]

Another major concern of the Orlando conferees was planning. "Planning is necessary," but what kind of planning will best achieve the enactment's goals, and how and by whom should it be carried out?

Those who would plan new lifelong opportunities for the public face a number of complicating "givens." A substantial system of formal postsecondary education is already in place.

A very considerable level of lifelong-type activity already characterizes that system (adult and continuing education, evening and extension services, and now new "nontraditional" programs, for example). States vary tremendously in their commitments to adult learners. The nature of any longer-term Federal commitment remains unclear. Too little is known about public needs or wants for lifelong learning. Legislatures are wary. New tax dollars will be hard to come by.

Beyond "givens", the lifelong concept presents planners, especially at the state level, with a series of knotty issues. Whom should the state support, for example: all adults or only those with financial need? Are all the subjects of study -- from medicine to auto repair to macrame -- to be supported? What weight should be given to individual adult choice as against identifiable manpower needs?[5]

What does all of this mean for institutional researchers? Presently, state planners and federal officials are preparing for lifelong learning programs. We, as institutional researchers must be vitally involved in this process because we will be asked to deal with issues at the institutional level. We will be asked by our presidents and other administrators to determine, to interpret, to calculate, and to show what effect all of this will have on financial aid, scheduling, the system for counting FTE, credit hours, work loads, and accreditation.

What are the ramifications when we are asked to participate in brokering arrangements with other agencies. Does an accrediting agency accredit the institution or the contracting agency? What happens when price differentials exist for private contracting institutions, when students from the contract community college pay a low tuition and regularly matriculated students of the same private institution pay a traditional tuition?[6]

Another problem area requiring consideration is the question of the faculty and their supervision. Are the faculty of the contracting colleges under the jurisdiction of the community college...if not, how can the community college assure appropriate and qualitative programs...if so, what kind of friction develops between administrators of the separate colleges and the community college? How is faculty evaluation carried out and by whose standards and criteria? Another difficult area relates to the impact of the community college on registration procedures, grading policies, admissions standards, and so forth. Does the contract community college necessarily force uniformity and commonality of procedures, forms, and standards upon the contracting institutions?

Another important provision in the contract relates to accounting aspects of the community college students and billing procedures. How much does the contract community college pay for a student who withdraws after one or two weeks? How does the contracting college relates its grading and probation policies to community college students? Who has the responsibility for judging the quality of the courses and program involved?[8]

All of the aforementioned are issues which we, as institutional researchers must broach. These issues are germane in dealing with the lifelong learning concept, and in dealing with educational brokering or non-institutionalized postsecondary education.

At the same time, state planners and federal officials are groping with some of the aforementioned, along with looking at other issues which affect postsecondary institutions. These include:

(1) Will we aid only the needy people with tax dollars allocated for lifelong learning?

(2) Will we plan only for those areas that require tax dollars?

(3) What level of detail will be planned for at the state level?

(4) Shall we set up new agencies or use existing ones?

(5) Will lifelong learning be an opportunity for all adults or only a new market for institutions?[9]

In conclusion, institutional researchers and state planners can work cooperatively to plan for lifelong learning. Neither group wants to restrain educational opportunities. As we move to bring adults into the educational mainstream, we need a renewed partnership among the federal government, state governments, and institutional planners and researchers. At present, we do not have very many answers to the questions posed; however, we can find them by being helpful not hurtful, by acting as a catalyst, not a controller, and by encouraging creativity. And finally, as the demands for adult eduction, continuing education, and lifelong learning crowd in on us, we need that partnership in planning and we definitely need it soon before we spend more billions of dollars on fragmented programs.

FOOTNOTES

[1] A report of a National Invitational Conference on State Planning for Lifelong Learning (Tallahassee: The Florida Department of Education) 1977.

[2] Regional Learning Service of Central New York, "Learning Consultant Handbook," (Syracuse: Division of Syracuse University Research Corporation) n.d., p. 7.

[3] Samuel B. Gould. Today's Academic Condition (New York: McGraw-Hill Book Company) 1970, p. v.

[4] A Report of a National Invitational Conference on State Planning for Lifelong Learning.

[5] Ibid.

[6] Louis W. Bender, "A Third Version of the Community College: The Contract College -- An Analysis of State Planners." (An address delivered at the National Conference on Lifelong Learning) Orlando, 1977.

[7] Ibid, p. 17.

[8] Ibid, p. 19.

[9] Donald McNeil, "State Planning for Lifelong Learning" (An address delivered at the National Conference on Lifelong Learning) Orlando, 1977.

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DEGREE PROGRAM INVENTORIES, PROGRAM REVIEW AND DECISION-MAKING IN ACADEMIC PLANNING

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DEGREE PROGRAM INVENTORIES, PROGRAM REVIEW AND DECISION-MAKING IN ACADEMIC PLANNING[1]

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Degree Program Inventory Defined: A degree program inventory is a listing of degree programs offered by a single institution or a system of institutions, usually grouped by Higher Education General Information Survey (HEGIS) codes, and showing the level(s) at which the degree programs are available.

Table 1 shows an extract of a degree program inventory of the State University System (SUS) of Florida and an extract of an inventory compiled by the South Carolina Commission on Higher Education. As will be noted, the format of the two degree program inventories is not precisely the same but the information presented about instructional offerings shown in the inventories is similar. There is, however, an important difference in the two inventories; the SUS inventory covers only the nine public universities in Florida, whereas the South Carolina inventory includes all public two-year and four-year institutions of higher learning, all private colleges and universities, and all technical colleges and centers in that state.

Purpose of this Paper: The degree program inventory is prerequisite to effective educational management in higher education, including program review, and to the decision-making that accompanies long-range educational planning. The purpose of the paper is twofold. First, the primary uses that can be made of the degree program inventory in educational management and planning will be outlined. Secondly, the structure that the degree program inventory provides to the institutional researcher for data gathering and for reporting the results of his research to the administration and faculty will be explored.

Table 1: Two Methods for Organizing a Degree Program Inventory

I STATE UNIVERSITY SYSTEM OF FLORIDA
Academic Programs Degree Inventory

HEGIS Codes	Degree Program	UF	FSU	FAMU	USF	FAU	UWF	FTU	FIU	UNF
0500	Business, Commerce, Management									
0501	Business, General		M D		B M			B M	M	M
0502	Accounting	B M	B M	B	B M	B	B	B M	B M	B
0504	Banking and Finance	B M	B M	B	B	B	B	B	B M	B
0506	Business Management	B M D	B M	B	B M	B M	B M	B M	B M	B
0507	Management Science and Systems					B				
0508	Hotel and Restaurant Management		B						B M	
0509	Marketing and Purchasing	B M	B M	B	B	B	B	B	B	B
0510	Transportation								B	B
0511	Real Estate	B M				B			B M	B
0512	Insurance	B M	B M						B	B
0513	International Business		B			B			B	
0515	Personnel Management					B				
0517	Business Economics			B	B M			B M		B
0519	PreLaw		B							

Source: Research Services, BOR

II SOUTH CAROLINA COMMISSION ON HIGHER EDUCATION

U.S.O.E. TAXONOMY	PROGRAM NAMES AND INSTITUTIONS	C	B	M	S	D
0500	Business and Management*					
0501 00	Business & Commerce					
	Lander College		X			
	U.S.C. - Main Campus			X		X
	Columbia College		X			
	Erskine College		X			
	Newberry College		X			
0502 00	Accounting					
	Clemson University		X			
	Lander College		X			
	South Carolina State College		X			
	U.S.C. - Main Campus		X	X		
	Baptist College		X			
	Bob Jones University		X			
	Coker College		X			
	Furman University		X			
	Newberry College		X			
	Wofford College		X			
0504 00	Finance					
	U.S.C. - Main Campus		X			
	Furman University		X			
	Limestone College		X			
0506 00	Management & Administration					
	The Citadel		X	X		
	College of Charleston		X			
	Francis Marion College		X			
	South Carolina State College		X			
	U.S.C. - Main Campus		X			
	U.S.C. - Coastal		X			

* This is only a partial listing of Business and Management Programs; the complete listing is approximately three times as long.

Source: South Carolina Commission on Higher Education

The Degree Program Inventory - An Old or New Concept? Colleges and universities have always kept abreast of their degree programs, but until recently, often gave little emphasis to communicating the dimensions of their instructional programs either internally or to other institutions. This lack of communication may have been linked to institutional autonomy. Two decades or so ago, many institutions had relatively more autonomy than they have today. In this setting, some institutions were prone to regard changes in their instructional program as principally an institutional prerogative. Concerted efforts were not always made to establish basic educational purpose in terms of degree program offerings.

In today's higher educational world, the need for an up-dated listing of degree programs is more pressing than in former years. Increasing significance is being ascribed to the responsibility of a college or university to equate its basic educational purpose (role and scope) with its offering of degree programs. In a system of institutions, such as we have in Florida for our public universities, unnecessary duplication of instructional effort is avoided wherever possible. Degree program inventories for the individual universities and for the system are an absolute requirement to insure program control that in turn will bring about balanced instructional programs at the institutional level and systemwide.

The concept of the degree program is not new. What is new, in that it has occurred in recent years, is the movement toward statewide and regional planning that has placed heightened emphasis on the listing of academic programs.

The Inventory of Academic Degree Programs in South Carolina, from which the extract shown in Table 1 was taken, encompasses both public and private postsecondary institutions, whereas the inventory of degree programs for the State University System lists only the offerings of the nine public universities. Although long-range planning in higher education today in Florida occurs mainly within defined sectors of higher education, such as the private sector and the public sector, the time is near for joint planning among both sectors of higher education. There is little doubt that in the future more and more states, including Florida, will publish degree program inventories that report the instructional programs of all postsecondary institutions, private as well as public, as exemplified by the inventory published by the South Carolina Commission on Higher Education.

HEGIS and the Degree Program Inventory: As some of the long-time participants in this series of institutional research conferences will remember, a meeting of institutional research officers was held at the Langford Hotel in Orlando in mid-1966 for the purpose of hearing Dr. Charles Roberts of H.E.W. describe the HEGIS project that was being launched. Later that same year, the First Institutional Conference took place in Lakeland. Now that ten years have passed, not everyone in higher education in Florida views HEGIS as an unmixed blessing. The criticisms of HEGIS aside, there is no question but that the Taxonomy of Instructional Programs in Higher Education, a product of HEGIS, has done as much to undergird the process of inventorying degree programs as any other single development in higher education.

The HEGIS codes of academic programs provides a standardized structure that is widely accepted for grouping degree programs in an inventory format. If the HEGIS taxonomy were not available, in all probability there would be numerous program classifications in use, effectively denying a comparative study of degree programs, a process which must rest on a commonly accepted taxonomy of broad academic areas of study.

The HEGIS codes not only established a basis for a comparative study of instructional programs, but also made possible a longitudinal analysis of trends in degree program enrollments and in degree productivity. To appreciate the value of having a classification rationale that is generally accepted over a period of years, all we have to do is to look at the changes made by H.E.W. almost yearly in the categories under which enrollment by race is reported. It is impossible to document enrollment trends over the nearly ten year period that enrollment by race has been reported to H.E.W. because of the ever-changing classifications of races. If no further changes are made, enrollment trends by race and program can be documented beginning in 1977. If changes continue in the years ahead, the institutional researcher will remain frustrated in his efforts to report trends in the racial composition of the total enrollment.

Despite the usefulness of the HEGIS codes for structuring the program inventory, there are some unresoved problems in assigning HEGIS codes to degree programs. The most common problem that arises is the assigning of code numbers to degree programs that are not listed by HEGIS. The designers of HEGIS anticipated this problem, and provided a series of numbers under each of the broad discipline headings to be assigned to degree programs not specifically listed by HEGIS. For example, the broad heading of Agriculture and Natural Resources has the code of 0100. There are 17 specific degree programs listed under this broad heading, beginning with Agriculture, General (0101) and ending with Range Management (0117). The code 0199 is reserved for reporting degree programs in Agriculture and Natural Resources additional to the 17 listed on the HEGIS form.

In the State University System, universities sometimes seek to report degree programs by the division that offers the program instead of by the HEGIS code structure. For example, Florida State University initially wanted to report Interior Design under Home Economics, in that this specific program is offered by the School of Home Economics. At the University of Florida, Interior Design is offered by the College of Architecture. The HEGIS taxonomy shows Interior Design as a program under the broad heading of Architecture and Environmental Design. The Board of Regents office in Tallahassee, following the HEGIS taxonomy requires that Interior Design be reported under Architecture and Environmental Design (Table 2).

Again to refer to Table 2, one notes that Building Construction had been added to the HEGIS listing of degree programs. This University of Florida degree program was assigned the code 0208 from the unlisted code numbers reserved by HEGIS for additional degree programs.

Table 2: Degree Programs by Institution and Level
For Architecutre and Environmental Design,
State University System of Florida

HEGIS Codes	Degree Program	UF	FSU	FAMU
0200	Architecture and Environmental Design			
0202	Architecture	B M		B M
0203	Interior Design	B	B M	
0204	Landscape Architecture	B		
0206	Urban and Regional Planning	M	M D	
0208	Building Construction	B M		

Earlier, reference was made to the stability given to the process of inventorying degree programs by the unchanging HEGIS taxonomy. Some change, however, is likely to occur soon. The National Center of Higher Education Management Systems is currently circulating for review, a new draft of a proposed taxonomy of postsecondary education subject matter areas. Any new taxonomy that is adopted is likely to be similar to, but not identical with the original HEGIS taxonomy. There are indications that a revised taxonomy will contain brief descriptions of the subject content of the degree programs listed, which will be a meritorious feature. When a new taxonomy is finally adopted by H.E.W., institutional research officers should move quickly to bring their program inventory formats into agreement with the revised taxonomy.

Program Inventory and Institutional Research: Institutional researchers for many years have been called upon to report enrollment and degrees awarded. The degree program inventory enables persons engaged in institutional research to report enrollments and degree output by degree programs. By so doing, the institutional research office can, almost routinely, report changing enrollment trends (or lack of change) by programs within the universities, as well as in degree output. Not too many years ago, the institutional researcher could not readily answer questions relating to enrollment trends by programs and degree productivity by programs. Now he can, provided that the process of inventorying degree programs is firmly in place at his institution and that he makes use of the format available to him.

An example of the reporting of classes held by programs and of student credit hours generated by these programs is shown in Table 3. Table 3 was extracted from a publication of the Board of Trustees of State Institutions of Higher Learning, State of Mississippi, covering the eight public institutions of higher learning in Mississippi. The extract shown in Table 3 shows degree programs, number of classes, and on-campus student credit hour productivity in three of the HEGIS codes (Communication, Computer and Information Science, and Education). Similar information for off-campus centers and for extension classes are shown in separate sections of the report.

There are, of course, summary data that the institutional researchers are called upon to provide that are not readily placed in a degree program inventory based on the HEGIS codes. Table 4, for example, presents a distribution by institution of lower division credit hours generated in class sections of varying sizes. To have presented this information for all nine universities in one table would have been cumbersome. The credit by class size data could have been effectively presented in a program inventory format for a single institution, however, without any difficulty at all.

Although not all data are of a nature to be assembled in a degree program format, the range of data that can be so assembled is so wide, that the degree program inventory constitutes a basic presentation device for the institutional

Table 3

Number of Classes and Credit Hour Production by Level, Mississippi State University First Regular Session, 1976-77

Mississippi State University
Number of Classes and Student Credit Hour Production
(Continued)

HEGIS Field of Study	Number of Classes				Student Credit Hours			
	Lower	Upper	Graduate	Total	Lower	Upper	Graduate	Total
0600 Communications								
0601 Communications, General	45	30.2	1.8	77	2,922	1,235	39	4,196
Total	45	30.2	1.8	77	2,922	1,235	39	4,196
0700 Computer & Information Science								
0701 Computer & Info. Science	18	8.4	11.6	38	1,357	439	304	2,100
Total	18	8.4	11.6	38	1,357	439	304	2,100
0800 Education								
0801 Education, General	—	5.0	7.0	12	—	165	402	567
0802 Elementary Education, Gen.	8	46.9	22.1	77	339	2,425	518	3,282
0803 Secondary Education, Gen.	—	24.0	11.0	35	—	919	72	991
0806 Jr. & Comm. College Education	—	—	4.0	4	—	—	93	93
0807 Adult & Continuing Education	—	10.4	10.6	21	—	329	166	495
0808 Special Education, Gen.	—	14.1	9.9	24	—	873	264	1,137
0815 Speech Correction	—	1.7	.3	2	—	129	12	141
0822 Educational Psychology	12	8.7	21.3	42	1,839	1,632	384	3,855
0826 Student Per., Counsel., & Guid.	—	2.9	45.1	48	—	255	1,116	1,371
0827 Education Administration	—	—	26.0	26	—	—	472	472
0832 Music Education	9	9.0	4.0	22	1,539	230	53	1,822
0835 Physical Education	33	36.9	4.1	74	1,008	4,142	186	5,336
0838 Bus. Com. & Distr. Education	14	27.7	3.3	45	433	1,381	81	1,895
0839 Indus. Arts, Voc. Tech. Ed.	12	33.6	8.4	54	495	851	99	1,445
Total	88	221.0	177.0	486	5,653	13,331	3,918	22,902

Source: Board of Trustees, State Institutions of Higher Learning, Mississippi

Table 4

Distribution of Lower Division Credit Hours Generated by Class Size and University
Source: Instructional Activity File, Fall 1976

Univ. Abbr.	Type of Summary Data	Sections Containing 1-7 Students	8-14 Students	15-30 Students	31-40 Students	41-70 Students	More Than 70 Students	All Sections
UF	No. Cred. Hrs.	437	2581	52045	42337	17512	44074	158986
	% All Sect.	0.2	1.6	32.7	26.6	11.0	27.7	100.0
FSU	No. Cred. Hrs.	352	1707	28523	16880	23476	34732	105670
	% All Sect.	.3	1.6	26.9	15.9	22.2	32.8	100.0
FAMU	No. Cred. Hrs.	519	1502	9853	8038	20967	4195	45074
	% All Sect.	1.1	3.3	21.8	17.8	46.5	9.3	100.0
USF	No. Cred. Hrs.	[illegible]13	1227	16772	13327	28340	34101	94180
	% All Sect.	.4	1.3	17.8	14.1	30.0	36.2	100.0
FTU	No. Cred. Hrs.	11	499	8623	4008	7374	13706	34221
	% All Sect.	.0*	1.4	25.1	11.7	21.5	40.0	100.0
SUS	No. Cred. Hrs.	1732	7516	115816	84590	97669	130808	438131
	% All Sect.	.3	1.7	26.4	19.3	22.3	29.9	100.0

*Percent was smaller than one tenth of a percent.

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research officer. Before disseminating any information, a question that the researcher should ask himself is: Can this information be presented in a degree program inventory format?

The institutionl research officer is the appropriate person to establish effective liaison between management information and administrative and faculty personnel seeking information relating to the operational aspects of an institution. The institutional researcher understands full well that management information is the master piston that drives the program inventory process. He needs to devote his efforts toward determining that the program inventory concept is compatible with his institution's management information system. He can perform this function by taking part in group discussions with management information personnel aimed at aligning the degree program inventory with the basic data files.

Program Review: Program review, broadly defined, is the process of evaluating a degree program to determine if a program is to be dropped, continued, or merged with another program offered in the same institution or elsewhere in the SUS. The Florida Board of Regents office and the universities, assisted by outside consultants, conduct program review, now conceded to be a continuous process. Without a program inventory, there can be no program review. The two processes, program inventorying and program review, are interwoven components of academic planning and evaluation.

In the SUS, each of the nine institutions builds its own program inventory. At the Board office, the program inventories of the universities are merged into a systemwide inventory. Before the SUS inventory can be produced, the central staff must review all institutional program inventories to make a final determination of the code numbers to be assigned to degree programs not specifically listed in the HEGIS taxonomy.

Table 5 lists the degree programs in Education offered by Florida Agricultural and Mechanical University. Three programs assigned 0899 codes were given new codes at the Board office. Similar revisions were made in most of the degree programs for the other eight universities. A portion of the SUS degree program inventory, in Education (0800), now in draft form, is shown in Table 6.

A few years back, the SUS sought to develop a rationale for describing a concentration of course offering with a program as sub-programs, called "tracks". For example, Florida State University, at the graduate level in education offered "tracks" in Community Colleges, Institutional Research, Student Affairs, and Curriculum Design as sub-programs of Higher Education. Although concentrations of courses in these sub-areas of emphasis may still be taken by graduate students, enrollment and degree productivity in these sub-areas are subsumed under the overall heading of Higher Education, General (0805), and not as tracks, or sub-programs.

A significant aspect of program review is cost. The degree program inventory concept provides a frame of reference for establishing cost per credit hour for each program, and a basis for making a comparative analysis of cost among programs.

In that program review brings about changes in the instructional program, the program inventory does not remain current long, in most cases, not even for an academic year. There must be a continuing up-dating of the inventory. This is especially true of the SUS inventory, which must reflect changes being made throughout the system. [illegible] priority must be given by the institutional researcher, both at the institutional level and at the level of a coordinating or governing board to keep the degree program inventory up-dated; an out-of-date inventory would be misleading to academic planners.

Table 5

Program Inventory (Education) for Florida A and M University (1976-77)

University Assigned HEGIS	SUS Revised HEGIS	Title of Program	Level
0802		Elementary Education	B M
0803		Secondary Education	M
0807		Adult & Continuing Education	M
0826		Guidance & Counseling	M
0899	0827	Educational Administration & Supervision	M
0831		Art Education	B
0899	0835	Physical Education	B M
0838		Business Education	B
0839		Vocational Industrial Education	B M
0899	0840	Vocational Home Economics & Agricultural Education	B M

Table 6: Degree Program Inventory
State University System (1976-77)
(A Partial Listing of Programs in Education)

HEGIS Codes	Degree Program	UF	FSU	FAMU	USF	FAU	UWF	FTU	FIU	UNF
0800	Education									
0802	Elementary Education, General	BMSD	BMSD	BM	BMSD	B	BM	BM	BM	BM
0803	Secondary Education, General	MSD		M					M	BM
0804	Junior High School Education						B			
0805	Higher Education, General		MSD							
0806	Junior College Teaching				M					
0807	Adult & Continuing Education		MSD	M	M				M	
0808	Special Education, General	MSD	BMSD		BM	BM	B	M	BM	M
0809	Administration of Special Education	MSD								
0810	Education of the Mentally Retarded	BMSD			BM		B		BM	
0811	Education of the Gifted				M					
0815	Speech Correction	BMSD								
0816	Education of the Emotionally Disturbed	MSD			BM				BM	
0818	Special Learning Disabilities	MSD			BM				BM	
0820	Education of the Multiple Handicapped	MSD								
0821	Foundations of Education	MSD	MSD			M				
0822	Educational Psychology									B
0823	Pre-Elementary Education	BM				BM	BM		BM	
0824	Educational Research & Testing	MSD								
0825	Educational Testing		MSD							
0826	Student Personnel (Counseling & Guidance)	MSD	MSD	M	M	MS		M	M	
0827	Educational Administration	MSD	MSD	M	M	MSD	M	M	M	M
0828	Educational Supervision		MSD							
0829	Curriculum & Instruction	SD	BMSD		M	MSD				
0830	Reading Education	M	BMSD		M		M	M	M	M
0831	Art Education	BM	BMAD	B	BM	B	B	BM	BM	BM
0832	Music Education	BM	BM D		BM	B	B	BM	BM	BM
0833	Mathematics Education	BM	BMSD		BM	B	B	BM	BM	BM
0834	Science Education	BM	BMSD		BM	B	BM	BM	BM	BM
0835	Physical Education	BM	BMSD	BM	BM	B	BM	BM	BM	BM
0837	Health Education	BM	BM		B				BM	BM

BDM/jm 3/4/77

Note: The SUS program inventory is being revised; this table reports the latest draft of a portion of the Educational programs.

A Final Word: Management information systems are made up of several files. In the State University System, data tapes include an admissions file, a student data/course file, academic assignment file, instructional activity file and authorized position file. An effort is being made to retrieve data from most of these files in the format of the degree program inventory. The degree program inventory provides a common link across files and universities. This task is far from complete. With every additional file that is assembled to produce information in the degree program format, the yield of comparative data reflecting the total operational aspects of an institution or a system of institutions is extended. To complete this task will be a difficult undertaking, but the end results will many fold justify the time, effort, and expense put forth in finishing the job and in providing the necessary maintenance and up-date.

GET/mn
6/6/77

A RESPONSE TO THE OFFICE OF CIVIL RIGHTS: YES, WE'LL COMPLY: WITH WHAT CRITERIA?

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A RESPONSE TO THE OFFICE OF CIVIL RIGHTS: YES, WE'LL COMPLY; WITH WHAT CRITERIA?

Introduction

In 1974, plans for equalizing educational opportunity in public higher education in Florida were submitted to the Office of Civil Rights (OCR) of the Department of Health, Education, and Welfare (HEW), in compliance with Title VI of the Civil Rights Act of 1964. Those plans included the following statement: "The major goals of all universities... are to increase black student enrollments to about the same percent of white students from the total white population matriculating through the secondary schools and community colleges into the State University System." The timetable for achieving those goals was given variously, as 1980 or 1984. With some variation of the original submission, the plans were adopted with that kind of language, but with a specification that numerical goals in conformance with the general statement would be determined.

Within the past year, as the result of court action, HEW has determined that the plans submitted by Florida and six of the other so called "Adams states" are not satisfactory, and that new plans will have to be submitted. Although the guidelines from HEW have not been anounced, it is expected that a critical portion of the plans will be specification of numerical goals for student enrollment.

Part of the complexity of the current situation stems from the fact that HEW has been the defendent in the court procedures, not the State of Florida, but that the State of Florida will have to comply with guidelines drawn by the Department of HEW as a result of the legal procedings. Because of the rather short period of time which will be allowed for the submission of new plans, the shift in decision making to the Federal level creates an interesting problem for institutional research, or more precisely, interinstitutional research.

Since the State has a basic goal of providing equal educational opportunity, the institutional researcher is asked to supply data to determine what enrollments "should" occur, evaluate the institutions according to those data, and develop comparisons with other institutions. The first step in this process is to determine what racial distributions should be expected within an institution which provides equivalent opportunities for all students and potential students. The general expectation is that the distribution of students by race (discussion in this paper is restricted to distributions of blacks and whites, although the techniques could be used for any number of races) in a college or university should be equivalent to the distribution existing within the pool of potential students. Therefore, identification of that specific pool is essential in determining what enrollments "should" occur.

System goals

Since upper division universities within the State University System (SUS) were designed with a primary purpose of providing access to upper division instruction for Florida public community college graduates, a possible pool for these universities Systemwide is the total of the graduates within Florida. That is, the proportion of the black population to be utilized in developing enrollment objectives is the proportion of associate of arts degrees earned by blacks. To verify that the upper division institutions were serving this purpose, the undergraduate enrollments were analyzed for Fall, 1976. These universities are Florida Atlantic University (FAU), University of West Florida (UWF), Florida International University (FIU), and University of North

Florida (UNF). It was determined that 70% of the undergraduate students enrolled in upper division universities had transferred from Florida junior colleges (Table 1). The remainder of the students transferred from other Florida public and private institutions and from other institutions around the nation. From the results of a prior study (Montgomery, 1975) concerning SUS transfers, it can be anticipated that over 20% of the remaining transfers had last attended another SUS institution (and prior to that, they could have been enrolled at a community college). To prevent multiple counting of students in determining the potential student pool, transfers from other SUS institutions are not considered as a separate subpopulation. Therefore, for purposes of this illustration, the student pool for upper division institutions is defined as the recipients of the Associate of Arts Degree from Florida community colleges.

Since historical data concerning the race of associate of arts graduates in Florida are available only for 1972-73, 1974-75, and 1975-76, the long-term average is based on these years only. An alternative pool is based on the last data available, 1975-76. To display the data, an index of equal educational opportunity can be developed. The index is computed by dividing the proportion of blacks enrolled at the institution (or Systemwide) by the proportion of blacks in the potential student pool. The result is multiplied by 100 to derive an index in which a score of 100 means the proportion of blacks served by the institution is identical to that proportion which exists in the "potential student pool". The index scores presented in Table 2, indicate that, at the System level, equal educational opportunities are provided for students.

Table 1

Source of undergraduate students enrolled in upper division universities, Fall, 1976.

	Transfers from Florida Junior Colleges		Other Transfers	Total Enrollment
	Percent	Number		
FAU	67.3	3,506	1,707	5,213
UWF	83.3	3,295	662	3,957
FIU	72.5	5,404	2,049	7,453
UNF	53.4	1,821	1,590	3,411
Totals	70.0	14,026	6,008	20,034

Date Source: Student Data Course File, Fall, 1976

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Table 2

Index of Equal Educational Opportunity for Upper Division Universities

	Total	Black	Percent Black	*EEO Index #1	**EEO Index #2	Percent Black from Institutional Model (#3)	***EEO Index #3
FAU	4,431	236	5.3	68	77	3.58	148
UWF	3,439	241	7.0	90	101	5.95	118
FIU	7,397	562	7.6	97	110	9.25	82
UNF	2,615	235	9.0	115	130	8.57	105
Totals	17,882	1,274	7.1	91	103	7.0	101

* Index #1 derived by utilizing black proportion (7.8%) of total A.A. recipients in Florida, 1975-76

** Index #2 derived by utilizing black proportion (6.9%) of total A.A. recipients for all years during which that data was collected (1972-73, 1974-75, and 1975-76).

*** Index #3 derived from model described in text

Data Sources: 1. Degree data from Division of Community College Degree Reports

2. SUS enrollment data from Student Data Course File, Fall, 1976

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Universities which have lower divisions obtain students from a different pool. The institutions are University of Florida (UF), Florida State University (FSU), University of South Florida (USF), Florida Technological University (FTU), and Florida A & M University (FAMU). The source of students for those institutions as a group, displayed in Table 3, was examined to determine the number of students provided by each major subpopulation. The number of students from each major source was multiplied by the proportion of blacks which exists in each of the major subpopulations to determine what the racial proportion "should" be. Based on this derived racial proportion and the actual proportion, index scores were computed for those four institutions excluding FAMU (Table 4) and for all of the institutions (Table 5). The index scores were 40 and 99, respectively. Thus, according to these assumptions with respect to the racial compositions of undergraduate students, the major problem relates to the distribution of black students within the System. Given the System as a whole, the proportion of black students is about what would be expected from the relevant pools.

Goals by university and student level

As an alternative, one can look at racial mix at each university by the level of the student, lower level (freshman and sophomore) compared to upper level (juniors and seniors) compared to graduate students. Enrollment at each higher level depends upon the level preceding. That is, the number of students in a higher level cannot be greater than the number of students who successfully completed the level coming before it. This approach may sound like a method for avoiding responsibility at the upper and graduate levels, but only by a separation by level can one separate the problems of retention from the problems of recruitment.

TABLE 3

Source of Undergraduate Students Enrolled in SUS Institutions which have Lower Divisions, Fall, 1976.

	Transfers from Fla. Jr. Colleges		Transfers from Other Colleges		First Time in College		Total Classified
	Percent	Number	Percent	Number	Percent	Number	Enrollment
UF	28.9	6,754	14.2	3,321	56.9	13,318	23,393
FSU	35.3	6,062	18.7	3,207	46.0	7,898	17,167
USF	35.3	6,170	23.7	4,149	41.0	7,160	17,479
FTU	37.1	3,457	31.9	2,972	31.0	2,889	9,318
Subtotal	33.3	22,443	20.3	13,649	46.4	31,265	67,357
FAMU	8.5	460	9.3	501	82.2	4,442	5,403
TOTAL	31.5	22,903	19.5	14,150	49.1	35,707	72,760

Data Source: Student Data Course File, Fall, 1976.

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TABLE 4

Index of Equal Educational Opportunity at the undergraduate level for institution which have Lower Divisions, Fall, 1976 (Derived by Utilizing the Proportion of Blacks of each Subpopulation from which Universities Obtain their Students).

SUS Universities with Lower Divisions - (FAMU)

	Population Proportion Black		SUS Undergraduate Enrollment		Number of Blacks Anticipated for Index of 100
[1]Jr. College Graduates	.069	X	22,443	=	1,549
[2]High School Graduates	.189	X	31,265	=	5,909
[3]U.S. Colleges and Universities	.092	X	10,478	=	964
[4]SUS Universities	.102	X	3,171	=	323
			67,357		8,745

Percent of SUS Population Black for Index of 100: 8,745 ÷ 67,357 = 13.0
[5]Actual SUS Population Black: 2,993 ÷ 57,091 = 5.2

INDEX: 5.2 ÷ 13.0 X 100 = 40

[1] Black Proportion of Total A.A. Degrees for 1972-73, 1974-75, and 1975-76.
[2] Black Proportion of High School Graduates for 1974-75 and 1975-76.
[3] Black Proportion of Undergraduate Enrollment Reported by H.E.W. for 1974.
[4] Black Proportion of Enrollment for 1975.
[5] Data from SUS undergraduate enrollment summaries, Fall, 1976, Race/Ethnic Identification.

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TABLE 5

Index of Equal Educational Opportunity at the undergraduate level for institutions which have lower divisions, Fall, 1976 (derived by utilizing the proportion of blacks of each subpopulation from which universities obtain their students).

SUS universities with lower divisions (including FAMU)

	Population Proportion Black		SUS Undergraduate Enrollment		Number of Blacks Anticipated for Index of 100
Jr. College Graduates	.069	X	22,903	=	1,580
High School Graduates	.189	X	35,707	=	6,749
U.S. Colleges and Universities	.092	X	10,863	=	999
SUS Universities	.102	X	3,287	=	335
			72,760		9,663

Percent of SUS population Black for Index of 100: 9,663 ÷ 72,760 = 13.3
Actual SUS Percent Black: 8,280 ÷ 62,791 = 13.2

Index: 13.2 ÷ 13.3 X 100 = 99

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At least, if proportions are increasing in time, one must expect the time for obtaining goals at a higher level to lag the achievement of goals at lower levels. In other words, the separation by student level of racial composition points out the dynamic character of goals: the goals for the upper level determine goals at the graduate level at a later time and the goals at the lower level determine goals at the upper level at a later time.

Moreover, the composition of each university may be different as each university draws students from different parts of the state. Other things equal, one should not expect a university drawing students from community colleges with low black enrollment to have as many black students as a university drawing from community colleges with a higher percentage. These expectations can be made quantative by the following model for the upper level.

We assume that the region from which a university enrolls its students is characterized by the community colleges from which students transfer (a better assumption for upper-division universities than four-year universities). The composition of transfer students from each community college should equal the composition of the degree recipients eligible for transfer. For calculating percentages of enrollment, it is also assumed that the number of students transferring from a community college to a university is equal to the historic number. That is, the goal for each university is a percentage of black students at the upper level equal to the percentage of black students transferring into the institution, and the percentage transferring from each community college should equal the percentage graduating with an appropriate degree. The data used for the application of this model were (1) the actual 1974-75 composition of community college recipients of the AA degree (or graduates of other programs creditable toward a Bachelor's degree) and (2) the actual number of transfers between the community colleges and the universities recorded in the Fall Quarter, 1975.

A model for graduate level enrollment can be based on similar reasoning. The goal may be considered as the highest of percentages obtained from three different criteria: (1) the university's upper level percentage expected two years before the graduate goal is to be obtained; (2) the current percentage of black students graduating from the university at the Bachelor's level; and (3) the current percentage of graduate students. That is, each of the criteria sets a minimum, and the goal is the highest minimum. The second and third criteria have obvious rationale. In applying the model, actual data for Fall, 1975 were used for the third criterion, and actual 1974-75 data were used for the second criterion. For the first criterion, the two year lag is necessary to allow students time to graduate. We assume that the upper level goals as developed above apply for the year 1981 and that the percentages will increase linearly between 1975 and 1981. Then, the graduate goal for 1981 based on the first criterion uses the expected 1979 enrollment percentage at the upper level.

Table 6 summarizes the results of the model for enrollments at the two levels described. The total for the eight universities excluding Florida A & M is obtained by weighting the percentages according to the current enrollments at each of the universities.

Comparisons of Index Scores

Since there are a number of reasons why index scores fall below 100, comparisons with institutions of other states may be useful in the evaluative process. Institutions selected for this purpose include (1) the Land Grant institutions identified or established by states through the Land Grant

Table 6
BLACK STUDENT ENROLLMENT
PERCENTAGE OF FALL HEADCOUNT

University	Institutional Model Goals (for 1981)	EEO Index
UF		
U	6.37	55
G	5.32	71
FSU		
U	5.50	108
G	5.93	84
USF		
U	6.13	81
G	5.56	37
FAU		
U	3.58	149
G	6.39	100
UWF		
U	5.95	118
G	5.77	64
FTU		
U	4.29	72
G	4.57	100
FIU		
U	9.25	82
G	8.65	78
UNF		
U	8.57	105
G	8.28	56
8 University Total		
U	6.2	83
G	5.8	71

U refers to upper level undergraduate
G refers to graduate

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Amendments of 1890 and (2) other well known universities from a number of different states.

The first category was selected because each of the states, as a result of that legislation, formed separate institutions for blacks and whites to serve in the "Land Grant tradition". This was intended to increase accessibility of higher education for both races, but helped to establish and strengthen dual systems of higher education. Thus, these institutions have a number of commonalities. The second group of institutions was selected to provide comparisons from a variety of different states. These universities are relatively large and reflect differences in racial proportions of state populations.

Sufficient information to use the models described above was not available for the other states. A radically simplified pool was therefore employed, namely, the entire population of the state, with enrollments and populations as of 1974. For each of the predominantly white institutions, an index was computed by dividing the proportion of black students by the racial proportion of the state's population. Indices of the predominantly black institutions were calculated by using the reciprocal racial proportions.

Table 7 shows the results of these calculations, with the Land Grant institutions separate from the remainder. The effect of history can be seen from this presentation, but there is also an implication that the racial composition of a state does not give the complete picture.

Conclusions

Problems in the development of goals go beyond simple institutional research. We are dealing with a policy of what should happen, and the

TABLE 7
"EQUAL EDUCATIONAL OPPORTUNITY INDEX SCORES" FOR SELECTED INSTITUTIONS: FULL-TIME UNDERGRADUATE ENROLLMENTS, FALL, 1974

Range of Index Scores	"1890" Land Grant Institutions	Other Selected Universities	Nation and Florida Public Universities
91-100		Indiana State University University of Pennsylvania	
81-90			
71-80		Kent State University University of Wisconson at Madison	**Nation (Public and Private)**
61-70		University of California at L.A. Illinois State University Ohio State University	**State University System (1974)**
51-60		State University of New York at S.B. University of California at Berkley University of Michigan State University of New York at Buffalo University of Nebraska at Lincoln	**University of North Florida**
41-50	Lincoln University	Indiana University	
31-40	University of Maryland Deleware State College University of Maryland at E.S. Oklahoma State University		**Florida State University** **Florida Atlantic University**
21-30	Kentucky State University University of Missouri University of Florida University of Kentucky University of Tennessee University of Deleware	University of Illinois at Urbana	**State University System excluding FAMU (1974)** **University of South Florida** **University of West Florida** **University of Florida** **Florida International University**
11-20	Mississippi State University Alabama A&M University North Carolina State University University of Georgia		**Florida Technological University**
0-10	Louisiana State University University of Arkansas at P.B. Virginia Polytechnic Institute Florida A&M University Auburn University Ft. Valley College Tennessee State University Virginia State College Langston University Clemson University North Carolina A&T State University Texas A&M University Frarie View A&M University University of Arkansas at Fay. Southern University A&M Alcorn State		**Florida A&M University**

Data from: Racial and Ethnic Enrollment Data from Institutions of Higher Education, Fall, 1974.

definition of "should" may be a matter of argument. The problems which we have identified include the dependence of one division of the educational structure on other divisions. For example, the enrollment at upper divisions of universities depends upon the success of the community colleges in graduating black students. We have also seen the necessity of looking at a time schedule in which goals for one year depend upon goals for previous years at different levels.

None of the approaches described is proposed as the definitive technique for setting goals. Based upon the undergraduate pools examined, the State University System as a whole does appear to enroll the proportion of black students which may be expected. More detailed conclusions on compliance must depend on more detailed expectations.

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DECISION-MAKING IN GRADUATE ADMISSIONS POLICIES IN THE FLORIDA STATE UNIVERSITY SYSTEM - A CRITICAL REVIEW

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Presented at
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DECISION-MAKING IN GRADUATE ADMISSIONS POLICIES IN THE FLORIDA STATE UNIVERSITY SYSTEM - A CRITICAL REVIEW

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Overview of Trends in Admissions Process in Institutions of Higher Education

The admissions policies and practices in our nation's institutions of higher education are the outcome of over 200 years of trial and error on the part of the nation's oldest colleges (Broome, 1963). Some institutions oriented themselves towards the most selective system for admitting students relative to their institutional goals. Other institutions (i.e., state universities and colleges) were founded on a system of goals that facilitated access to higher education for the large number of students denied admissions elsewhere. In response to recent demands to reconcile institutional goals with societal and public policy (Threshner, 1966), our institutions of higher education created an innumerable number of degree programs. The various degree programs within an institution were responding to the many educational needs of a heterogeneous clientele. It became expedient for these degree programs to establish their own admissions standards to satisfy their program goals. This trend somewhat explains the complex nature of the admissions process that evolved since World War II. The problems of admissions began to differ among institutions as well as within the institutions. With a variety of institutions serving a diversity of students, it was not feasible to adopt one single admissions program to serve an institution (Fincher, 1968, p67). Concurrently, there developed a trend towards the specialization of admissions work. Hauser and Lazarsfeld's (1964) study demonstrated this trend in admissions. They reported that 7 percent of the subjects in their study held the title "Dean of Admissions".

The academic department has become a significant unit in the admissions process in our institutions of higher education. Findings from the study reported in this paper document the scope of the departments' decision-making role in the admissions process for the nine public universities in the Florida State

University System (SUS). A survey of all the department heads of graduate programs in the Florida State University System was conducted in December of 1977 to examine the policies that govern admissions to the many graduate programs in the State University System. A consistent pattern emerged in the department's involvement in the admissions process. All nine institutions allowed the departments to decide on the options to either elevate, add to, or simply make no changes in the minimal standards prescribed by the Board of Regents for admissions into the respective graduate programs. With almost no exception, departments exercised their autonomy to modify graduate admissions standards within the range of prescribed minimal requirements to satisfy their specific program goals. A detailed presentation of the Graduate Admissions Study of the Florida State University System is provided in the paper. Preceding that discussion is a general review of the literature on the departmental unit in our institutions of higher learning. The related research provides a systems framework for viewing the basic structure of departments and their involvement in decision-making processes in the institution. It will provide a more comprehensive picture of how the internal operations of the departments in the admissions process have added to the complexities of the overall process. The basic nature of the departmental structure has been given focus in recent institutional research studies.

Perspectives on decision-making at departmental level. It became a prevalent practice among our institutions of higher learning that decision-making of admissions policies be exercised at the departmental level (within the parameters of minimal standards prescribed by a Board of Regents of the respective institution). The consequences are that decision-making in a department often takes a form indigenous to the discipline (Anderson, 1976). Anderson comments that the form a particular policy recommendation of a departmental issue takes is unique to a given department because it relates to a particular disciplinary conceptual framework. The inherent conceptual modes and methodologically related process seem to justify development of policy at the departmental level. The decision-making involvements of the department has been a basic perspective for conceptualizing departments (Gardner, 1971). Many studies of departments conceptualize them as formal bureaucratic structures governed by formal national process (Blau and Scott, 1962). Advocates of this theoretical perspective view departmental components as formally prescribed roles and activities associated with formally devised offices, processes, and functions (Peterson, 1976, p.21). The same factors apply to work in professional schools.

It is important to view the internal operations of a department in relation to its institution. The nature of the college will somewhat explain the focus of power and decision-making in admissions policies at the departmental level. The underlying structure of the departmental unit remains ambiguous (Peterson, 1976, p.22). This somewhat explains a basic concern over the validity of its involvement in institutional admissions procedures. A department's input into the admissions process has resulted in a heterogeneity of admissions practices within a system across the same discipline and within an institution across departments. This picture characterizes the Florida State University System admissions process for graduate study, and is hypothesized to be a typical pattern nationwide.

A relevant research question emerges over the degree of effectiveness and validity in allowing so many different admissions programs to be in effect among departments. Would greater quality in institutional and program management be warranted by some consistency in admissions programs discipline-wise? systemwide? How would conformity in the admissions process, systemwide, affect trends in both the enrollment and in the type of student (i.e., background, talents) in the graduate programs of study throughout the Florida State University System? nationwide?

The paper does not attempt to answer these questions. However, findings are discussed from the Graduate Admissions Study of the Florida State University System that allude to these and other admissions-related issues. The issues are presented as areas of concern to the Institutional Researcher.

Case Study: Graduate Admissions Policies and Procedures in the Nine Universities of the Florida State University System

Intent of study. The intent of the graduate admissions study for the Florida SUS was not to evaluate, but to describe factually the admissions policies and practices of the graduate programs at the nine universities of the Florida SUS. It follows that the characteristics of the students accepted and denied admissions in these graduate programs are functions of those admissions procedures. The paper will describe the policies governing admissions in terms of these student characteristics.

The descriptive nature of the study should not be considered a limitation. The data will have utility for the policy makers to assess current admissions procedures, institutionally and systemwide. In general, the study will contribute to the concerted efforts of other institutions engaged in research of their own admissions process.

Admissions standards for graduate study. The study examined the admissions policies only for the graduate programs in the state universities. It is recognized that the flow of students into an institution at the undergraduate level somewhat governs the flow of academically promising students at the graduate level (Tully, 1977). The reverse effect should not be dismissed, as well, that the credibility of the graduate or professional programs in an institution influences the flow of students into undergraduate programs.

Research design and procedures. A questionnaire was sent to the department heads of every department that has a graduate program in the nine state universities of the Florida University System. The survey was conducted during January of 1977. Overall, there was a 90 percent response rate (n=251).

Table 1 shows the number of department heads responding to the survey.

Table 1

Number of Department Heads Responding to the Survey Questionnaire by University

University	No. of Departments
FAMU	11
FAU	23
FIU	13
FSU	58
FTU	14
UF	80
UNF	10
USF	29
UWF	13
Total	251

Sources of Data. Data for the study were obtained from three primary sources: (1) responses to the questionnaire designed for the study (mail survey); (2) admissions files from Management Information System, Board of Regents; and (3) admissions records of the two medical schools (University of Florida and University of South Florida), the two law colleges (Florida State University and University of Florida), the dental college (University of Florida), and the Program in Medical Sciences, or PIMS (Florida State University and Florida Agricultural and Mechanical University), and the veterinary medicine college (University of Florida). The admissions process for the first professional programs of study will not be discussed in this paper. A brief description of the admissions process for each of them is available in a report prepared for the Board of Regents (Tully, 1977).

Admissions Process for Graduate Study Programs in the Florida State University System

Mimimal admissions standards. The Florida Board of Regents prescribes a mimimal set of admissions criteria an applicant must meet to be admitted into any graduate program in the State University System of Florida. That minimal set of requirements, as abstracted from the Florida Administrative Code, 6C-6.03, are as follows:

...a bachelor's degree or equivalent from an accredited university and a B average or better in all work attempted at the upper division level or a GRE Total Aptitude Score of 1000 or higher or an equivalent score on an equivalent measure approved by the Board of Regents

...a graduate degree from an accredited university

The Code specifies these minimal admissions policies for all graduate programs of study (i.e., the two law colleges, two medical schools, dentistry school, and veterinary medicine). The admissions process for first professional study in the State University System involves a very in-depth appraisal of applicants. Admissions is most selective in each professional program.

The Regents delegated authority to the Florida institutions of higher learning the option to elevate the minimal standards cited in the Code (previously summarized in the report) or to add additional criteria to them. There is evidence from the survey findings that all nine institutions delegate that authority to the departments that house these respective graduate programs. This means that the final decision-making process of those policies and procedures that will govern admissions into the graduate programs (within minimal standards prescribed in the Code) occurs at the departmental level. In consequence, there has evolved a variation in the graduate admissions procedures and policies among the departments within a single institution in the State University System.

In utilization of the undergraduate grade point average (UPGA) and the Graduate Record Examinations (GRE) as the two main predictors of success (as well as the two main variables for selection of an applicant) in graduate school will be confirmed by the survey findings. In fact, most of the nation's graduate schools require the submission of scores on the Aptitude Test of the GRE by applicants. The twofold assumption is held that the (1) desirability of a candidate is directly proportional to his/her score on this test, and (2) the individual scores of the GRE will predict his/her GPA and success in graduate school to some extent (Thacker and Williams, 1974, p.939).

GPA and GRE as predictors. The throes of student dissent and financial crisis in which American higher education found itself during the late sixties destroyed some of the optimism generated by the educational movement of the early sixties. What developed was a need for a more systematic approach to the issues of college admissions research.

Because of the facility in correlating test scores with GPA, the validity of academic ability was generally accepted as the extent to which they correlated with college grades (Fincher, 1968). Over the past three decades, the GPA has been adopted by many institutions as the sole criterion for predicting academic success. This resulted in the GPA being used as a graduate admissions criterion for degree programs.

The graduate admissions study of the Florida State University System gave indication that the GPA, as the sole criterion and predictor of success in graduate study, is leveling off. Despite the evidence given that a B average is a better index of above average classroom work than it was four years ago with the grade inflation, the use of the GRE by graduate-level departments continues to be widespread (Tully, 1977). Table 2 shows a range of 27 percent to 100 percent of the departments within each of the nine institutions that

Table 2 [a]

Number and Percent of Graduate Departments
Requiring the GRE Aptitude Test Scores
(Based on 90% Response to the Survey)

	FAMU	FAU	FIU	FSU	FTU	UF	UNF	USF	UWF
Departments Reporting	11	23	13	58	14	80	10	29	13
Departments Req. GRE	3	22	7	50	12	77	4	29	4
Departments Not Req. GRE	8	1	6	8	2	3	6	0	9
Percent Requiring GRE	27%	96%	54%	86%	86%	96%	40%	100%	30%

[a] Abstracted from Tully (1977) report

require GRE scores to be submitted by all applicants to graduate study. Systemwide, 83 percent of the responding departments require GRE's. The finding is interesting when one considers that the Regents offer the option to the institutions (who in turn open the options to the choice of the department) to either require a B average or a 1000 on the GRE.

Submission of GRE Scores by Applicants in Graduate Programs

Comparisons by sex; race. Table 3 indicates that in the Fall, 1976, four out of every five applicants presented a GRE score. The table categorizes the data by race and sex. The percent of females is very close to the percent of males who submitted GRE scores (84 percent and 81 percent respectively). There appears to be more flexibility, however, for waiving the submission of GRE's for blacks than for whites.

Table 3 [a]

Numbers of Applicants by Sex and by Race
With and Without GRE. Percents With GRE

SEX

Applicants	With GRE	W/O GRE	% With GRE
Male	3061	722	81%
Female	2293	429	84%
Total	5354	1151	82%

RACE

Applicants	With GRE	W/O GRE	% With GRE
Black	165	106	61%
White	5052	970	84%
Total	5217	1086	82%

[a] Abstracted from Tully (1977) report

Tully (1977) reported the number of applicants accepted and denied admissions as categorized by race and sex, and by six GRE-GPA categories. The six categories were the result of graduate department policies that give the applicant the option to present either a minimum B GPA or a minimum 1000 GRE. The percent of blacks and whites accepted in each of the GRE-GPA categories varied within a range of 2 to 7 percentage points with the exception of one GRE-GPA category (i .e., GPA less than 3.0, GRE 1000 or higher). The differences in percentages between the two groups in that one category somewhat loses significance when one considers the large differences between the number of non-black and black applicants (811 and 11 applicants respectively). Tully's paper demonstrated that the percentage of women excceeded the percentage of men in each of the six GRE-GPA categories. A chi-square test was conducted and resulted in no overall significant differences in the frequencies of acceptances between male and female applicants.

Issues. The question of bias among different groups in the prediction model utilized for admissions have been given considerable attention among measurement specialists over the past few years. Some of the crucial dilemmas emerging in search of a politically acceptable resolution of a selection model have been presented in a recent paper by Cronbach (1976). He proposes a number of strategies a business or educational institution might employ to increase the fairness of the model of selection. Petersen and Novick (1976) refer to a selection model as a strategy with the intent of guarantee of cultural fairness in the selection process. Assuming that applicants can be separated into subpopulations (i.e., by race and sex), the test (or admissions criteria utilized as predictors of success in graduate study) may be more valid for some subpopulations than for others. One implication is that the differential selection criterion may be appropriate for different subpopulations. There is further discussion on the equity in selection models later in the text.

Some of the relevant research questions that might arise from an institution's admissions data, categorized by sex and race, are the following:

(1) Should the GRE be given more weight in the admissions decisions for one subpopulation than another? (e.g., should more black applicants be given waivers of submitting GRE scores than white applicants?) Should an equivalent measure be required of that other subpopulation instead of granting a total waiver of standardized tests, in general, as a graduate admissions standard?

(2) Does granting waivers of admissions standards, i.e., GRE scores, more to one population than another result in denial of admission to the "average" student who did submit a respectable GRE score (at least 1000) and thus is predicted to hold academic promise of success in graduate study?

(3) Should the GRE be required of all applicants to any graduate programs of study systemwide? nationwide?

Differences in Acceptance/Application Ratios Across the Nine Florida Universities

The Florida Systemwide study gave evidence of the primary role in establishing admissions practices for graduate study at the departmental level (within minimal constraints prescribed in the Code). It is the hypothesis that the role of the departmental structure in the graduate admissions process is prevalent nationwide. What has resulted, then, is a variation in admissions criteria for graduate study among the different graduate programs within an institution as well as for the same discipline across different institutions.

The Office of Research Services, Board of Regents, prepared an E.E.O. report showing the ratios of graduate admissions to applications for the nine state universities in 20 selected disciplines. The study showed that the acceptance/application ratios for biological science across the universities that have such a graduate program, for example, range from .23 to .92. The acceptance/application ratios for Business and Management graduate programs in the eight universities show an even wider range, from .32 to 1.00. These fluctuations in the acceptance/application ratios are the by-products of the differences in admissions practices within and among the institutions in the system. There is no consistency, then, in an applicant's probability of being accepted into different graduate programs at the same institution or in the same graduate programs (i.e., same discipline) at different institutions. This means that the applicant who presents a GRE cutoff score to the department is eligible for review, while in another department will automatically be accepted (Tully, 1977).

Survey of Department Heads

Two hundred and fifty-one department heads responded to the question whether or not graduate admissions requirements should be changed. Overall 62 percent favored no change, 20 percent favored higher standards, and 18 percent favored lower standards.

Comparing across the universities, there was a range from 8 percent (Florida Technological University) to 73 percent (University of North Florida) of the respondents expressing favor towards some change in admissions requirements. Table 7 below reflects the specific percentages for the nine universities.

Table 7[a]

Number and Percents of Department Heads Indicating a Preference to Change and a Preference Not to Change Existing Admissions Standards

UNIVERSITY	YES	NO	TOTAL	% FOR CHANGE
FAMU	6	4	10	60%
FAU	6	15	21	29%
FIU	8	5	13	62%
FSU	16	33	49	33%
FTU	1	12	13	8%
UF	28	50	78	36%
UNF	8	3	11	73%
USF	11	18	29	38%
UWF	7	6	13	54%

[a] Abstracted from Tully (1977) report

Among the department heads who saw a need for change of requirements, most of them specified revisions. Table 8 shows the most frequently mentioned changes in the degree categories: lower standards, higher standards, and additional changes suggested.

Table 8[a]

Suggested Changes in Admissions Standards
(In Rank Order)

Lower Standards (25 Respondents)	Higher Standards (55 Respondents)	Additional Standards (20 Respondents)
Eliminate score of 1000 on GRE	Require B average and GRE of 1000	Evaluate work experience
Set lower cutoff on GRE	Require higher GPA	Require letters of recommendation
Increase 10% exception rule	Raise GRE to 1200	Use tests other than GRE
Lower GPA to 2.5	Raise GRE to 1100	Evidence of reading and writing competency

[a] Abstracted from Tully (1977) report

Almost unanimously, the department heads preferred retention of the B average in upper division work as an admissions requirement for beginning graduate study. There was less consensus on the role of the GRE in the admissions process for graduate study. In the universities with relatively large numbers of graduate-level programs, departments tended to either support or to elevate existing admissions requirements. In the latter instance, department heads specified a requirement of a GPA of 3.0 and a GRE cutoff score of 1000. On the other hand, in universities with a relatively limited number of graduate programs, department heads expressed favor toward lowering existing admissions requirements (Tully, 1977). They specified a GRE cutoff score of 800 or 900 instead of 1000.

Department heads were also asked about the overall attitude of their faculty towards existing admissions requirements. Sixty-six percent of the department heads reported their faculties supported no change among existing admissions requirements, 20 percent supported higher standards, 10 percent wanted more flexible standards, and 4 percent wanted lower standards. Overall, faculties and department heads expressed similar sentiments toward existing admissions requirements.

Admissions Requirements Nationwide

Nationwide survey. A nationwide survey in graduate admissions policies and practices was conducted among 327 institutions (members of the Graduate Council on Education); 172 responded (Sherrill, 1976). The study reported that graduate admissions requirements are still largely determined by standardized admissions tests. Approximately 85 percent indicated an average of three letters of recommendation were required. A minimum GPA requirement for acceptance into a master's program ranged from 2.0 to 3.8 on a 4 point scale, resulting in an overall average GPA of 2.72. The report concluded the admissions policies and practices remain fairly consistent. It described the overall admissions trends being one of trying to accommodate a large variety of possible clientele, with special programs geared to professionals, full and part time, and older students. Many of the institutions, i.e., 82.5 percent of the respondents, expressed favor towards admitting graduates from institutions that do not use the traditional grading system.

The admissions process in America's institutions of higher learning have received public attention over the past two or three decades. Consequently, the overall admissions practices and policies for accepting and denying applicants have been the source of controversy. This paper has already alluded to some of these controversial issues. Research into the admissions process of an institution should be given high priority among institutional researchers.

Role of the Institutional Researcher in Admissions Research

Major issues in admissions research. The role and function of standardized tests and measurements have been among one of the most polemical and intense discussions in admissions research (Fincher, 1975). Goslin (1963) sought to place standardized testing in a social perspective to develop a meaningful multivariate model of all those variables thought to be influential in the selection of college students in academic programs. The role of personality factors was reviewed by Stein (1963).

Measurement specialists have questioned the widespread use of the GRE as a selection instrument into graduate study. Thacker and Williams (1974) reviewed recently published research articles on the predictive validity of the scores on the GRE relative to the criteria of GPA and success in graduate school. Data illustrated the need for additional predictive studies in the area since none of the results were found to be conclusive. The use of the same one or two criteria for admissions for the total pool of applicants have recently been challenged. Covert and Chansky (1976) examined the moderate effects of GPA and sex on prediction of success in graduate school. Findings showed the different predictions were achieved by dividing applicants to graduate programs according to sex and GPA.

Other studies express concern over the equity in the selection model. Reed (1976) discussed statistical issues raised by Title IX on selection and admissions procedures. Conclusions were drawn that the admissions procedures that use a single regression equation (combined for males and females) may be unfair to female college applicants. Reed made recommendations for implementation of studies to evaluate an institution's admissions procedures.

Breland and Ironson (1976) made a comparative analysis of alternative admissions strategies (for law school admissions). They reported that institutions must recognize the instructional approaches used in professional education are often not tuned to the needs of those with less traditional preparation.

Needs in admissions research. Institutions must recognize the need for admissions research in their own institution. They need to facilitate the research by allocating sufficient funds, time, and resources to admissions research. One suggestion is made to centralize the efforts of admissions research in an institution. Perhaps this evokes a call upon the institutional researcher. Institutional researchers are asked to play many roles and to respond to many different requests (Johnson, 1976, p.76). The "willingness of one institution to examine critically some aspect of its own operation while maintaining concerns for its meaningfulness for their institutions of higher education, in essence, is the conception of institutional research at its best" (Fincher, 1968). The institutional researcher can play a primary role in his/her institution's development of a systematic approach to admissions research. The institutional researcher knows that the start in any research effort is the aggregation and maintenance of accurate data. The data for admissions research should reflect the admissions policies in practice at the institutional and departmental levels.

Fincher (1968) indentified three trends in the nature of admissions research since the mid-sixties. One trend he described was in the promise of institutional research to place admissions research in a framework consistent of the larger implication of academic progression. When institutional research became committed to other problems in the later sixties and early seventies, admissions research became less and less the function of the institutional research centralized office; it became less related to the academic programs within the institution. Consequently, the admissions research underwent a transition from a systematic design to merely one of many links in a general design. Admissions research is usually low on the list of priorities among those institutional research offices that remain in touch with the area in some way. Too often, however, the extent of admissions research is in limited activities as program budget, course and classroom scheduling, and space utilization. Despite the need for these routine activities, they do not address the many other admissions issues in need of research at the institutional level. The policies and practices that govern the flow of students into the graduate programs of an institution require periodic review by an institution. The institutional researcher should not be so occupied with those routine activities of admission that he/she cannot initiate research essential to evaluate the institution's admissions process in total.

The survey of department heads in the Florida State University System revealed a predominant trend in the decision-making process of admissions standards to graduate study at the departmental level (within the constraints of minimal admissions standards prescribed in the Code). The trend is more than likely representative of a nationwide trend. This means that the institutional researcher needs the cooperation of the department heads in requesting admissions data. The concerted efforts of the institutional researcher and department heads are imperative to the progress of admissions research in an institution.

Summary

The demand for research in the admissions process for graduate programs has increased in recent years. The increase in graduate programs has contributed to the complex nature of the admissions process. It seems that the past trend for admissions research to be a function of institutional research is receiving focus once again.

As was demonstrated by the reported findings of the Florida State University System graduate admissions study, the kinds of data needed by an institution for assessment of its admissions process are extensive. Admissions research encompasses so many issues of institutional concern that the need for these data become more realistic. The data must be centralized so that they are accurate, consistent, and accessible to the researcher involved in the admissions research for the institution. The institutional researcher should be the key personnel in maintaining the kinds of admissions data that will address the priority needs of admissions research in the institution. The cooperation of the department heads in the institution is indispensable to the research efforts.

The department structure in our institutions of higher learning has recently been given attention among institutional researchers. Research efforts are being made to examine many variables that characterize the nature of that unit and the role of the department head. A specific aspect that needs further research relates to the communication needs of the department heads and the institutional researcher so they can interact effectively with each other. A systematic approach to studying admissions problems is largely contingent on the concerted research efforts of both the institutional researcher and the department heads of an institution.

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SPECIAL PROGRAMS FOR SPECIAL STUDENTS

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OFFICE OF INSTRUCTIONAL RESOURCES TEACHING CENTER

UNIVERSITY OF FLORIDA

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INTRODUCTION

One of the greatest educational experiments to grow out of the ferment of the 1960's has been the opening of the college and university admissions to all those who seek post-secondary education. Many of those who have pursued opportunities in higher education have been different from the traditional college-bound student, different in educational preparedness, in socio-economic strata and in attitudes towards themselves as learners.

This report of the evaluation of the Office of Instructional Resources Teaching Center describes an approach to deal with the problems of assessing an instructional program developed in 1972 for students who did not meet the admission requirements of the State University System. Although the basic goals of the program have remained unchanged, the procedures have evolved or been altered because of the development of more efficient or effective strategies, changes in personnel or fiscal constraints. The evaluation design not only provides a model to study the evolution of a program, but it also describes the application of formative evaluation to program development.

ESSENTIAL COMPONENTS OF THE PROGRAM

The Teaching Center is an academic, instructional unit serving the students and faculty of the special course sections. Recruiting of these students is done by the Office of Admissions; orientation to the University is conducted by the Special Services Program; financial aid is made available through the Financial Aid Office and the Special Services Program. Support services such as health care, academic, career and personnel counseling and career placement are made available through regular university agencies.

The specialized components of the Teaching Center include:

Multiple Achievement Testing and Feedback. Instructors divide course content into units and write a bank of test questions in multiple-choice or short-answer format for each unit which are stored in the computer. A student, when he feels he is ready, comes to the Teaching Center for testing, is administered a computer-generated test and has it scored by a laboratory assistant immediately. If he has met the criterion set by the instructor, he has completed that unit. If he fails, he is given additional help and attempts the test again, responding to different items from the item bank stored in the computer. In addition, the Registrar has established an "H" grade which allows a student an additional three weeks at the close of the quarter to complete work without penalty.

Tutoring. A tutor is assigned to each course taught through the Center. He works closely with the instructor, attends class and is responsible for contacting and tutoring every student in the course. Tutoring is done on an individual and group basis, both before and after testing, depending upon the preference and needs of the students.

Score Reporting. Each day test results are stored in the computer. From this data, weekly progress reports are generated for each student and each course section, and are made available to instructors, tutors, and the director of the Center. Thus it is possible at all times to monitor the progress of any individual student or the progress of an entire class on any particular unit of work.

During the two years a student may enroll in special sections he also enrolls in regular courses of the University. As his performance scores on tests increase, he is encouraged to enroll in more non-Teaching Center courses so that his transition to the academic mainstream is successful.

In addition, instructors are encouraged to use essay-type examinations and writing assignments as part of their instructional activities. Writing instructors at the Teaching Center work with students on these assignments, so they may develop academic writing skills that are essential in upper division work.

FORMATIVE EVALUATION

The formative evaluation encompassed four areas of the Center's activities. The four areas identified for study were the management system, tutor effectiveness, item quality, and client satisfaction. The entire population of students using Teaching Center services during the fall quarter, 1976 has been included in this analysis.

Results

1) Management system: testing times. It was clear that some students in most courses took an inordinately long period of time to complete the tests. The distributions of testing times were generally positively skewed which indicated that the majority of the testing times were less than the average testing time with a few extremely long times.

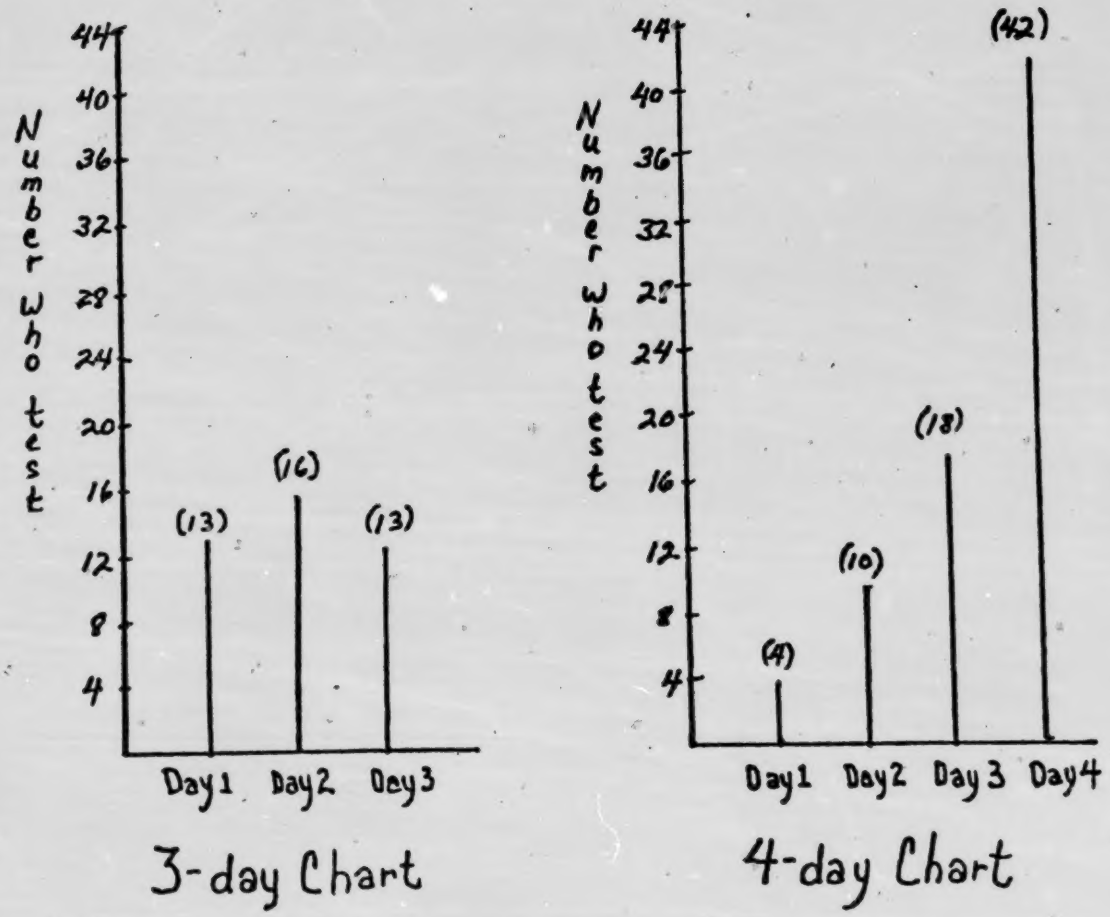
Management system: grading times. Wide variability in grading times characterized most courses.

Grading time should be at a minimum with little variability. This goal was intended to reduce the pressure on graders and to increase the interaction between students and tutors. The data does not indicate that the goal was successfully achieved.

Management system: student flow. On the basis of the information gathered, it was clear that Mondays and Fridays were the heaviest testing days. The heaviest weeks were the fourth and eleventh weeks. The busiest time periods were 10:30 a.m. and 1:30 p.m.

Management system: testing deadlines. Charts were prepared to document the pattern of test taking behavior affected by the establishment of different deadlines for unit tests. The question was concerned with whether or not a greater number of days in which a student was allowed to take a unit test would affect the flow of traffic in the Center. It was found that testing longer than three day periods resulted in the same pattern; the students tended to wait until the last day regardless of how many days were initially allowed (see Fig. 1).

Fig. 1. Testing Deadlines



3-day Chart

4-day Chart

Management system: repeat testing on the same day. Another problem in directing the student flow in the Center appeared to be related to the practice of repeating the same test on the same day. An analysis of the scores for those students who did repeat tests on the same day found that fifty-five percent of the time the practice did not benefit the student (see Table 1).

TABLE 1. REPEAT TESTING ON THE SAME DAY
FALL 1976

Improved Scores	Nonimproved Scores
	Fail Twice N = 110; % = 25
Fail - Pass N = 112 % = 25	Pass - Fail N = 27; % = 6
Improved Pass N = 89 % = 20	Pass - Decline N = 48; % = 11
	Pass - No Change N = 60; % = 13
Total Improved N = 201; % = 45	Total Nonimproved N = 245; % = 55

Management system: repeat testing over time. This question was concerned with the optimum number of attempts to allow for any given unit test. The Center policy was to allow repeat testing. However, it was felt that a maximum number of attempts should be established based upon information which would indicate that further attempts were not beneficial to the student and were contributing to congestion in the Center. Data from the fall quarter 1976 testing sessions were analyzed, and a matrix of average percent correct scores was prepared for students who retested the same unit test (see Table 2).

TABLE 2. MATRIX OF SCORES FOR STUDENTS WHO REPEAT THE SAME TEST: FALL 1976

Number of Times Tested	Average Percent Correct 1	2	3	4	5	Number of Students
1	62.0					570
2	57.8	68.4				716
3	51.1	57.8	67.1			333
4	43.9	51.4	55.1	55.8		44
5	43.0	53.2	55.6	47.1	59.5	10
6	47.5	40.0	70.0	35.0	70.0	1

The matrix revealed that students who took the same test twice increased their scores from 57.8 to 68.4 percent correct. Students who took a test three times increased their scores from 51.1 to 67.1 percent correct. Students who retested more than three times failed to improve beyond the third attempt. While students who took a test only once received the highest initial scores, those students who retested twice or three times received the highest final scores.

2) Tutor effectiveness. The data from the tutor activity records revealed that great variability existed in the number of tutoring sessions within subject areas as well as across subject areas. The number of sessions appeared to be related more to particular tutors rather than differing course requirements.

While more tutoring occurred in the physical science and mathematics areas than in the humanities and social science fields, it was not established that these differences were subject related.

An additional criterion for judging the success of the tutoring program was the academic success of the students who were tutored. The following table lists the distribution of grades in the courses taught through the Center in the fall 1976. The average number of tutoring sessions for each grade revealed a positive relationship between the number of sessions and the grade received for students who were tested (see Table 3).

TABLE 3. DISTRIBUTION OF GRADES BY NUMBER OF TUTORING SESSIONS

Grade	Total Number	Total Number Tutored	Total Number Sessions	Average Number Sessions	Range in Sessions
A	69	36	216	6	1 - 30
B	99	60	348	5.8	1 - 24
C	115	74	320	4.3	1 - 18
D	35	29*	109	3.7	1 - 12
E	30	16	40	2.5	1 - 8

*One student received a "D" with 30 tutoring sessions and was deleted from the analysis.

3) Item analysis. Item analyses were run for all unit tests in the physical science courses. Item difficulties were computed and the distribution of responses to item foils was examined. A meeting was held with the instructor from physical science to explain the role of item analysis in item construction. The results of the analyses along with input from the tutor for the course were used in the revision of items for that course. Additional meetings with the other instructors were planned.

4) Client satisfaction. The questionnaire solicited responses to items about: the management of the Center, the Center's role in the students' educational improvement, the attitudes toward the tutors, and whether or not the students like coming to the Center (see Table 4).

TABLE 4. ATTITUDE QUESTIONNAIRE RESPONSES

	Positive		Neutral		Negative	
	N	%	N	%	N	%
(1) Management function	1157	55%	604	29%	346	16%
(2) Educational betterment	151	24%	321	51%	159	25%
(3) Tutoring attitudes	505	63%	213	27%	78	10%
(4) Like coming to Teaching Center	69	32%	93	44%	51	24%
"General Attitude" (Totals)	1749	54%	1018	32%	457	14%

Students were strongly favorable toward the testing and grading procedures. The only areas of weakness pinpointed were the privacy of the grading area and the setting of deadline dates.

Generally no opinion was expressed about the extent to which the Center contributed toward educational betterment. Some students felt that they might have trouble adjusting to regular courses, because those courses did not allow for multiple testing and tutoring.

The tutoring component received the greatest proportion of the favorable responses. A majority preferred individual tutoring sessions; only twelve percent preferred group sessions.

The social value of the Center was assessed by asking the students if they liked coming. The largest category of responses was neutral. When the questionnaire was administered, the Center was located in a temporary building which was in poor repair. Subsequently, the Center was moved to a more attractive location, and a follow-up questionnaire showed a substantial shift toward favorable responses on this item.

SUMMATIVE EVALUATION

The Registrar maintains a computer-based data file on students which dates back to 1972. This data base provided records for the study. The design provided for a longitudinal analysis of the success of the five groups of special admission students admitted from 1970-1975. Criteria for success was measured by retention, grade point average, passing related non-Center courses, and choice of major. The relationship between grade point average and Florida Twelfth Grade Test scores was also examined.

Results

Retention. Retention was determined by grouping the special admission students by the year in which they enrolled as freshmen. Retention rates increased each year. For example, twenty percent of the 1972 students had graduated by 1976 (see Table 5).

TABLE 5. ANALYSIS OF WITHDRAWALS 1972-1976*
High Achievers and Center Students

	Graduated	Withdrew	Still Enrolled
High achievers 424	N = 110 % = 26	N = 163 % = 38	N = 151 % = 36
Center students 118	N = 24 % = 20	N = 45 % = 38	N = 49 % = 41

*A four year study (1972-1976) followed a group of students with CLEP credit and a comparison group of students with equal ability to determine their patterns of academic achievement. The figures for the high achievers in Table 5 were retention rates for the comparison group in the CLEP study.

Forty-one percent of the students were still enrolled, and thirty-eight percent had withdrawn. Of those students who withdrew, slightly more than half were in academic difficulty. The principal difference between the special admission students and a group of high achieving students for which retention data was available was the reason for withdrawal. Thirty-six percent of the high achieving students who withdrew were in academic difficulty compared to sixty-two percent of the special admission students who withdrew. More of the high achieving students had graduated, but more of the special admission students were still enrolled.

Grades. Grades for special admission students approximated the average grade points for all freshmen. Grades earned in Center courses were higher than those earned for other courses, perhaps because of the multiple testing opportunities offered in the Center.

Do Center courses predict success in related courses? The problem was defined as the relationship between the last course in a subject area taken through the Center and the first course taken outside the Center. Passing rates for the social sciences were uniformly high regardless of whether or not the students had taken courses through the Center. Passing rates for biological science were uniformly low. In physical science courses, passing rates increased from 1970 to 1975 for students who took previous courses in physical science through the Center. Similar increases were not found for students who did not enroll first in Center courses in physical science.

Major fields. The greatest number of special admission students declared majors in social science, with education second and business third. Enrollment in education declined and increased in health-related fields.

Florida Twelfth Grade Test and grade point average. When all special admission students were ranked from low to high on the Florida Twelfth Grade Test along with their freshman and sophomore grade point averages, no pattern was apparent. Achievement test scores did not predict the retention of students in the special admission category.

SUMMARY AND CONCLUSIONS

The formative phase of the evaluation of the Teaching Center was designed to provide information to be used in the development of policies. The data indicated that streamlining of the testing and grading procedures would alleviate some of the congestion at peak use periods. In particular, limits on the amount and frequency of repeat testing were warranted.

The overall effectiveness of the tutoring program was established. However, the tutoring program was not uniformly strong in all courses. A tutor training program was recommended in order to provide a more uniform quality of instruction. Finally, the analyses of the item banks did reveal a need for further improvement of the quality of the items.

The summative evaluation indicated that Center students did academically survive at the University, and this success was not related to achievement test scores.

The ultimate success of the Center depends upon the satisfaction of its clients, the students and the faculty. It was apparent that the efficiency and courtesy of the staff were most important. The undercurrent of concern expressed by some students that the Center failed to provide the discipline necessary for a successful transition to regular courses cannot be completely alleviated. However, the danger of isolating the students can be reduced in two ways. Students should be counseled into regular courses as soon as they are able to succeed in them. In addition, as resources permit, services at the Center should be extended to regular courses.

THE VALIDITY OF THE ACT ASSESSMENT FOR A SHIFT IN DECISION MAKING

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THE VALIDITY OF THE ACT ASSESSMENT FOR A SHIFT IN DECISION MAKING

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The purpose of this paper is to highlight ways that institutional research officers can help shift postsecondary decision making activities to high school counseling staff and individual students. Students have the right to receive current and accurate information regarding colleges of interest to them. Recall that the ACT Assessment includes a Student Profile Section (description of the background and plans of the student), a Student Interest Inventory, four self-reported high school grades, and the four standardized tests in English usage, mathematics, social studies, and natural sciences. The Assessment is a secure instrument that is administered on five national test dates each year, as well as residually on local campuses. Data from the ACT Assessment are used by secondary and postsecondary institutions as well as by students and their parents to facilitate education beyond high school.

Institutional Information

In addition to collecting information from students on the Assessment, ACT also collects a variety of facts regarding admission procedures, policies, and student characteristics from over 2,600 institutions in the country. Specific information for each of the colleges and universities is collected on an Institutional Data Questionnaire (copy in Appendix). The questionnaire is mailed by ACT to over 3,500 postsecondary institutions each Spring. For example, the questionnaire was mailed to 71 institutions in Florida this Spring. To date, responses have been received from 37 of the institutions. The questionnaire asks for information that will help college-bound students, parents, and counselors across the country learn more about a given institution. The kinds of information requested are:

A. Indentification of the Institution
  - Type of institution and control
  - Kind of students accepted
  - Size and type of community in which institution is located
  - Programs or degrees offered
  - Accreditation status

B. Description of the Student Body
  - Enrollment (Full- and Part-time)
  - Living patterns of freshmen
  - Ethnic make-up of freshman class

C. Admissions
  - Freshman requirements and policy
  - Out-of-state requirements
  - Admissions testing policy
  - Freshman academic characteristics (ACT Composite, SAT-V, SAT-Q, HSPR)
  - Grade point averages (high school, freshman)
  - Percent who graduate
  - Admission deadlines
  - Required high school Carnegie units
  - Admissions and Placement programs available for freshmen
  - Academic calendar
  - Permission to release institutional rank on the ACT Assessment

D. Undergraduate Costs

- Tuition and fees
- Room and board costs
- Financial aid available to freshmen
- Employment opportunities

E. Students in Programs and Majors

- Percentage of undergraduate students studying in different families of programs and majors

Much of the information requested is probably located in the Institutional Research Office on campus. After receiving the completed questionnaires, ACT prepares a verfication form to enable colleges to check the accuracy of information that will be reported about the institution. The demand for highly accurate and current information is great because these data are distributed to many thousands of students across the country to assist them in decision making.

Uses of the Institutional Information

When students write the ACT Assessment, they can identify up to six different institutions to receive a report of their ACT Assessment results. The high school version of the score report (located in the Appendix) provides a variety of facts about each of the colleges specified by the student. Most of these data come from the Institutional Data Questionnaire. The information can be used by students, counselors, and parents to help evaluate, compare, and plan for the best educational experience for the student. Guidelines for interpreting the institutional data are given in The ACT Assessment Counselor's Handbook. Additional interpretive materials, Your ACT Assessment Results, are provided to the students when they receive their Assessment scores. The data on the score report helps students to make comparisons among the institutions on a variety of variables, enabling students and their parents to make more informed decisions.

A second use made of the data from the Institutional Data Questionnaire is the development of the College Planning Search Book. This book is made available to students when they register to take the ACT Assessment. During 1975-76 over 60,000 copies of the book were ordered. Many high school libraries and counseling offices have copies of the book available for students' use. The book is designed to be used for making comparisons among insitutions on the variables associated with the Institutional Data Questionnaire. This book is updated and revised annually. Students who use the book are encouraged to work through several steps in the decision making process. First, students are asked to list what they want from a college. Next, they are provided help in finding colleges that meet these criteria. Then they are encouraged to compare these colleges. Finally, they are shown how to follow through with the most promising institutions. Institutions can be compared on information such as type, location, costs, admissions criteria, ability of students, and majors available. Users of the College Planning Search Book can identify a small list of institutions that meet the criteria of interest. By using such data, students can make more informed applications for admission to postsecondary institutions. In short, the data from the Institutional Data Questionnaire can assist students and their parents with decision making responsibilities, and in fact, provide a shoppers' guide for the best comparison of abilities, interests, and needs.

A third use made of the Institutional Data Questionnaire is through Project CVIS (Computerzied Vocational Information System) and Project Discover. Project CVIS is represented by a consortium of 20 institutions that make available computerized vocational guidance information to many are high schools via cathode ray terminals. The project was developed and is coordinated by Dr. Joan Harris Bowlsby of the University of Western Maryland. The system provides IDQ data on all four-year colleges in the system. A second generation of CVIS, called Project Discover is directed toward helping students to think through their postsecondary plans. Students are interrogated and receive feedback from the system as they ask for specific information about colleges. In Project Discover, a data base is provided for all 2-year and 4-year colleges that returned a completed Institutional Data Questionnaire to ACT.

Institutional Norms

A second way in which institutional research officers can provide useful information for student decision making is through participation in the ACT Research Services. The Class Profile Service provides percentile rank distributions for each of the ACT subtests as well as the composite score. These data, based on enrolled freshmen, are used to provide the percentile ranks located in the bottom right-hand corner of the High School Student Profile Report (HSSPR). Students can use such information to determine how well their abilities, measured by the ACT Assessment, compare to enrolled freshmen students at institutions of their choice.

An additional item of information that results from participation in the ACT Research Services is *Chance in ten of "C" or higher*. Institutions that participate in either the Basic or Standard Predictive Research Services have the option of having such predictions released to individual students. Again, if the data are made available, students can examine their probable chances of success during the freshman year at different postsecondary institutions.

SUMMARY

To summarize, this brief paper describes how data reported to ACT, that is usually channeled through offices of institutional research, can be used to assist students and their parents with postsecondary decision making activities. Institutions are encouraged to participate in the ACT research services, available at no-cost, and to complete an Institutional Data Questionnaire. The data that can be made available from institutions permits students to have accurate information for comparing different institutions as well as evaluating their potential performance at those institutions.

BIBLIOGRAPHY

Your ACT Assessment Results. A brochure that assists students and parents to interpret and use data provided on the High School Profile Report. American College Testing Program, 1976.

College Planning Search Book. A book designed to assist students and their parents search for and locate colleges that are appropriate to the student's needs and preferences. American College Testing Program, 1976-77 edition.

The ACT Assessment Counselor's Handbook. A handbook that provides pertinent and accessible information about ACT's guidance-oriented services, and suggested ways ACT data may be used in the counseling process. American College Testing Program, 1976.

APPENDIX

High School Student Profile Report

Institutional Data Questionnaire

MALE
08/22/58
WHEAT RIDGE CO 80033

HIGH SCHOOL CODE:	067-890
DATE TESTED:	10/76
ED. LEVEL WHEN TESTED:	SENIOR

1976-77 H.S. COUNSELOR'S COPY

ACT STUDENT PROFILE REPORT

ACT SCORES AND PERCENTILES

SUBJECT AREA	H.S. GRDS	ACT STANDARD SCORES (1-36)	ACT NORMS (%ILES) LOCAL	STATE COLLEGE BOUND	NATIONAL	
ENGLISH	A	25	93	93	94	NAT'L NORMS SHOWN ARE COLLEGE BOUND NORMS
MATHEMATICS	C	19	39	54	57	
SOCIAL STUDIES	A	26	81	84	85	
NATURAL SCIENCES	B	22	37	51	59	
COMPOSITE SCORE		23	64	71	74	

H.S. EXTRACURRICULAR ACTIVITIES AND COLLEGE EXTRACURRICULAR PLANS

	INSTR MUSIC	VOCAL MUSIC	STUDENT GOV'T	PUBLICATIONS	DEBATE	DEPT'L CLUBS	DRAMATICS	RELIG ORG'S	RACIAL/ETH ORG'S	INTRAMURAL ATHL	VARSITY ATHL	POLITICAL ORG'S	RADIO TV	FRAT/SORORITY	SPECIAL INTEREST	SERVICE ORG'S
HIGH SCHOOL	Y	Y	Y	Y	Y	N	Y	N	N	N	N	Y	N	N	N	N
COLLEGE	Y	N	N	N	Y	N	Y	N	N	N	N	Y	N	N	N	N

OUT-OF-CLASS ACCOMPLISHMENTS

LEADERSHIP	MUSIC	SPEECH	ART	WRITING	SCIENCE	ATHL	COMM SERVICE	WORK EXP
HI	N	HI	N	HI	N	AV	HI	VH

N = NONE AV = AVERAGE HI = HIGH VH = VERY HIGH

THE EDUCATIONAL AND VOCATIONAL PLANS YOU INDICATED

EDUCATIONAL MAJOR	HOW CERTAIN	DEGREE OBJECTIVE	SELF ESTIMATE OF COLLEGE G.P.A.
POLITICAL SCIENCE	FAIRLY SURE	PROF LEVEL	3.0-3.4

FIRST VOCATIONAL CHOICE	HOW CERTAIN	SECOND VOCATIONAL CHOICE
LAW	VERY SURE	INTERNATIONAL RELATIONS

THE SPECIAL EDUCATIONAL NEEDS AND INTERESTS YOU INDICATED

INDICATED NEED FOR HELP IN:

EDUCATIONAL OR VOCATIONAL PLANS	WRITING	READING	STUDY SKILLS	MATHEMATICS	PERSONAL COUNSELING
N	N	N	N	Y	Y

INDICATED INTEREST IN:

CREDIT BY EXAMINATION: ENGLISH	MATHEMATICS	SOCIAL STUDIES	NATURAL SCIENCES	FRESHMAN HONORS COURSES	INDEPENDENT STUDY	ROTC
Y	N	Y	N	Y	N	N

ADVANCED PLACEMENT IN:

ENGLISH	MATHEMATICS	SOCIAL STUDIES	NATURAL SCIENCES	FRENCH	GERMAN	SPANISH	OTHER LANG
Y	N	Y	N	N	N	N	N

COLLEGE SELECTION ITEMS BY RANK ORDER

TYPE	STUDENT BODY COMP	LOCATION	COST	SIZE	FIELD OF STUDY	OTHER FACTOR
FOURTH	SIXTH	FIFTH	SECOND	THIRD	FIRST	SEVENTH
PUB 4-YR	COED	COLORADO	UND 1000	5-10000		

PLANS TO SEEK FINANCIAL AID: YES NEEDS HELP TO FIND WORK: YES HOURS/WEEK: 11-20

SPECIAL MESSAGES

ANY MESSAGE PERTINENT TO THIS REPORT IS MARKED WITH AN ASTERISK

☐ SOCIAL SECURITY NUMBER NOT REPORTED BY STUDENT

☐ H.S. GRADES FOR TWO OR MORE SUBJECT AREAS NOT REPORTED BY STUDENT. NO PREDICTIVE INFORMATION POSSIBLE

☐ ONE OR MORE SUBTESTS NOT TAKEN. NO PREDICTIVE INFORMATION POSSIBLE

HOUSING PLANS

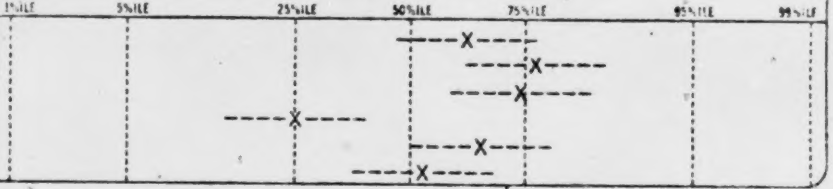
RESID HALL

ENTRANCE DATE

FALL 77

INTEREST INVENTORY (See *Your ACT Assessment Results*)

STANDARD SCORE (20-80)	BASIC INTEREST AREA	%ILE
54	SCIENCE	62
57	CREATIVE ARTS	76
56	SOCIAL SERVICE	74
43	BUSINESS CONTACT	25
54	BUSINESS DETAIL	66
50	TECHNICAL	52



MAP OF COLLEGE MAJORS—COORDINATES: I 53 II 46
(See Back of Report)

WORLD-OF-WORK MAP REGION 12

L = LESS THAN 3 N = NO INFORMATION
M = 3 OR MORE — = STUDENT DATA MISSING

INFORMATION ABOUT COLLEGES

COLLEGE ACT CODE	NAME OF COLLEGE	STATE ABBREVIATION	ENROLLMENT	SIZE OF COLLEGE COMMUNITY	GENERAL ADMISSIONS POLICY	TUITION AND FEES, YEARLY	FINANCIAL AID APPLICATION DEADLINE	ACT NEED ANALYSIS USED	COLLEGE CALENDAR	STUDENT'S MAJOR AVAILABLE	% IN EDUC. AREA SELECTED	SPECIAL PROGRAMS: FRESHMAN HONORS PROG	FRESHMAN DEV. COURSES	CREDIT BY EXAMINATION	INDEPENDENT STUDY	ROTC	HIGH SCHOOL AVERAGE FOR ENROLLED FRESHMEN	CHANCE IN TEN OF "C" OR HIGHER	AVERAGE COLLEGE FRESHMAN GPA	PERCENTILE RANKING OF YOUR ACT SCORES AT COLLEGE: E	M	SS	NS	C
0521	UNIVERSITY OF OMEGA	CO	28640	LG	TRAD	850	02/15/77	Y	E-S	M	12	Y	Y	Y	Y	Y	2.2	6	2.22	83	38	73	42	59
7111	ALPHA UNIVERSITY	IA	20118	LG	SEL	685	03/01/77	Y	E-S	M	15	Y	Y	Y	Y	Y	2.6	M	2.50	85	35	70	50	60
7222	BETA JUNIOR COLLEGE	CO	6500	SM	OPEN	500	04/01/77	Y	T-S	C	14	N	N	Y	N	N	2.4	9	2.40	95	65	90	70	85
7333	GAMMA COMM COLLEGE	CO	4850	MED	OPEN	350	NONE	Y	QTR	O	11	N	N	Y	N	N	2.1	4	1.80	90	55	82	76	79
7444	THETA COLLEGE	NY	2100	SMT	SEL	2950	03/15/77	N	TRI	M	20	Y	Y	Y	Y	Y	3.0	N	2.30	88	45	80	55	71
7666	EPSILON COLLEGE	IL	10986	SUB	HSEL	3150	NONE	Y	4-1-4	M	08	Y	Y	Y	Y	N	3.4	8	2.65	85	50	75	60	62

DASH (—) INDICATES INFORMATION NOT PROVIDED

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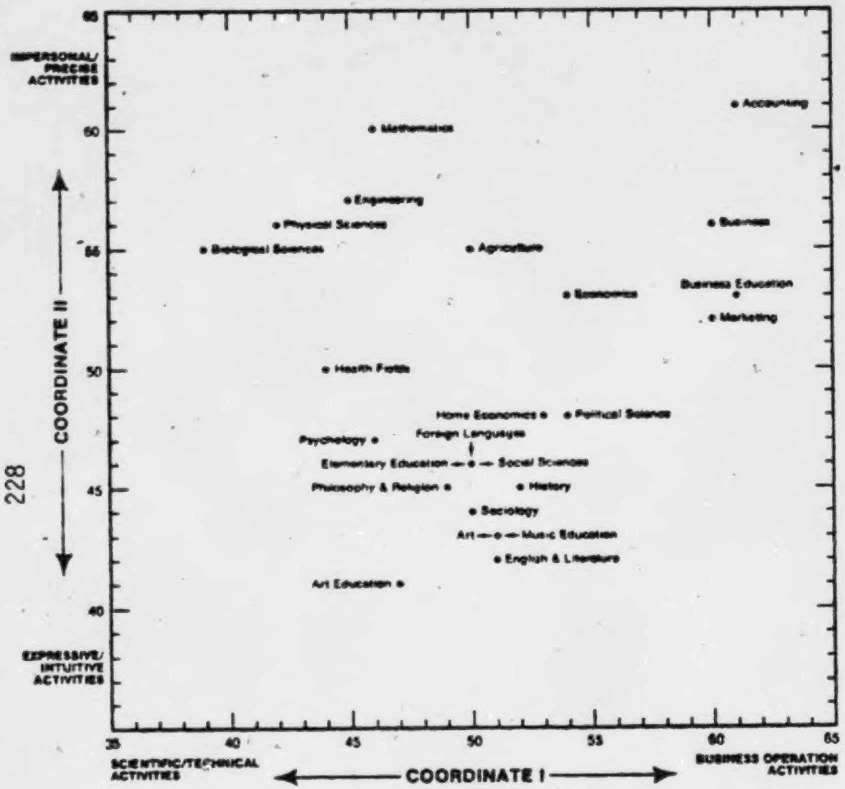
P.O. BOX 168, IOWA CITY, IOWA 52240, PHONE (319) 356-3711

SIDE 2

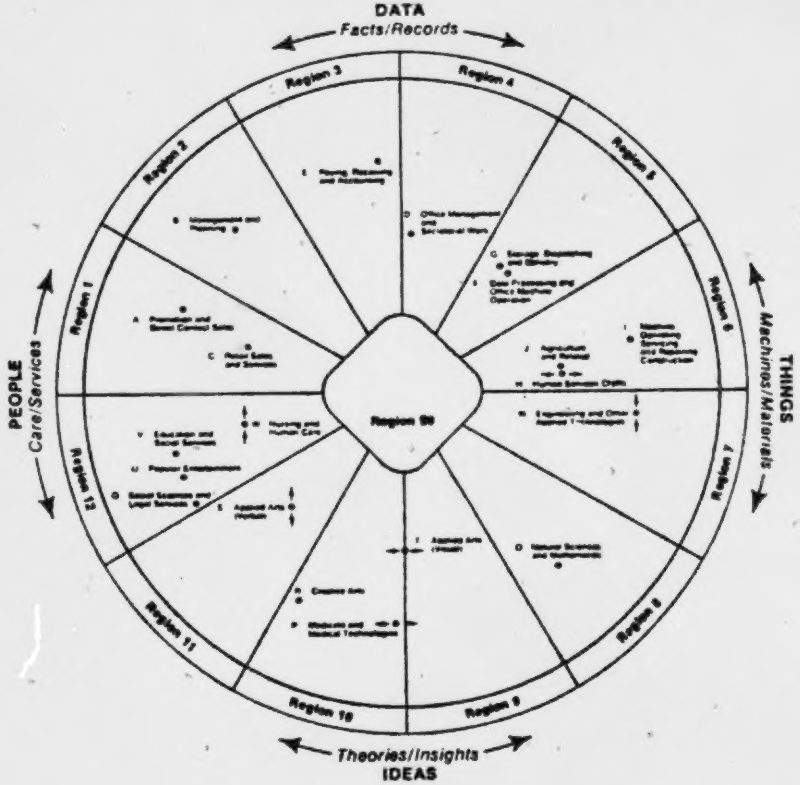
CAREER PLANNING AIDS

The Map of College Majors and the World-of-Work Map will help you identify college majors and occupations you may want to learn more about. The booklet, *Planning for College*, shows you in detail how to use these maps. You should read it carefully

MAP OF COLLEGE MAJORS



WORLD-OF-WORK MAP



HOW TO PLOT YOUR SCORES ON THE MAP OF COLLEGE MAJORS

1. Copy coordinate I _____ and coordinate II _____ from the Interest Inventory section on the reverse side.
2. Locate your score on coordinate I and draw a vertical line from that point to the corresponding point at the top edge of the map. Then locate your score on coordinate II and draw a horizontal line from that point to the corresponding point at the right edge of the map.
3. Make an 'X' where the two lines cross. This point shows the location of your interests as compared to those of students in a wide variety of educational majors. The closer you are to a major or group of majors, the more similar your interests are to the interests of successful and satisfied college seniors in that major.

HOW TO USE THE WORLD-OF-WORK MAP

1. Copy your World-of-Work Map Region _____ from the Interest Inventory section on the reverse side.
2. Use your region number to locate your region on the World-of-Work Map. Look at the job families in your region and the adjacent regions.
3. Turn to the Job Family Chart in *Planning for College* for a list of jobs in each job family. Your booklet also suggests several ways you can find out more about these jobs.

ACT Institutional Data Questionnaire Verification

ACT CODE **PAGE 1**

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P.O. BOX [illegible] IOWA CITY, IOWA [illegible] PHONE (319) 356-3807

Information about your institution is shown on these pages as it appears in ACT's Institutional Data File. This information (annually updated) will be used this fall to help college-bound students, parents, and counselors across the country learn more about your institution. Therefore, please respond as if the items were presented to you during the coming fall term, e.g., fall 1975, 1976, 1977.

Thank you for your continued assistance

Step 1: *Review the entries, using a red pen or pencil to make changes or additions. Cross out responses to be deleted.*

Step 2: *Fill in your name and mark the appropriate box at the right regarding changes made.*

Step 3: *Return this Verification form to ACT (even if you have made no changes) in the postage paid envelope provided.*

☐ Changes Made
☐ No Changes

Verifier's Name ______
Title ______
Phone No. (   ) ______ - ______

A. Identification of your institution (describe your specific campus)

1. The name of your institution will be presented to students as shown. If you wish to make any changes, print the desired name, one character or space to each box →

COLLEGE NAME **COLLEGE STATE**

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

2. Type of institution (check one)

______ 1. 2-year community or junior college
______ 2. 4-year or more college or university
______ 3. Vocational technical or business school
______ 4. Hospital school of nursing
______ 5. Other (please specify) ______

3. Students accepted (check all that apply)

______ Freshman students
______ Coed
______ Females only
______ Males only
______ Sophomore students
______ Upper division students
______ Graduate or professional level students

4. Size of community in which college is located (check one)

______ 1. Very large city (over 500,000)
______ 2. Large city (100,000-499,999)
______ 3. Medium city (50,000-99,999)
______ 4. Small city (10,000-49,999)
______ 5. Small town (under 10,000)

5. Type of area in which college is located (check one)

______ 1. Urban
______ 2. Suburban
______ 3. Town or community
______ 4. Rural

6. Programs or degrees offered (check all that apply)

______ Career-oriented programs not primarily for college credit (may offer certificate or diploma)
______ Associate degree
______ Baccalaureate degree
______ Master's degree
______ First professional degree (law, medicine, etc.)
______ PhD or equivalent
______ Other (please specify) ______

7. Affiliation (check one)

______ 1. Public
______ 2. Private, no religious affiliation

Private, religious affiliation

______ 3. Baptist
______ 4. Jewish
______ 5. Latter Day Saints
______ 6. Lutheran
______ 7. Methodist
______ 8. Presbyterian
______ 9. Roman Catholic
______ 10. United Church of Christ
______ 11. Other (please specify) ______

8. Religious observance or study (check all that apply)

______ No special emphasis on religious observance or study
______ Religious observance (chapel attendance, etc.) actively encouraged or required
______ Religious study (courses, etc.) actively encouraged or required

9. Our institution is Accredited or is a Recognized Candidate for accreditation by the following nationally recognized regional accrediting association (check one)

______ 1. Middle States Association
______ 2. New England Association
______ 3. North Central Association
______ 4. Northwest Association
______ 5. Southern Association
______ 6. Western Association
______ 7. None of the above

B. Description of student body at this campus

1. Students enrolled this past fall term

Full-time	*Part-time*	
______	______	Number of undergraduate students, including those in career-oriented programs
______	______	Number of post-baccalaureate students
______	______	Other
	______	% of full-time undergraduates who are women

2. Freshman class

______ % of freshmen are out-of-state students
______ % of freshmen live in campus housing
______ % of freshmen return to this institution as sophomores

3. Racial-ethnic background of students in freshman class

______ % Afro-American/Black
______ % American Indian/Native American
______ % Caucasian/White
______ % Mexican American/Chicano
______ % Oriental American
______ % Puerto Rican/Spanish-speaking American
______ % Other
100%

C. Admissions

1. Freshman admissions requirements for subunits of this campus

______ 1. Freshman admissions requirements are essentially the same for all units of this campus
______ 2. Important differences in freshman admissions requirements exist for individual schools or colleges of this campus. Responses for items 2 through 8 below apply to students entering largest (in terms of number of freshmen) school or college

2. Check the category which best describes to prospective students your freshman admissions policy (as applied to in-state or in-supporting-area students)

______ 1. Highly selective (majority of accepted freshmen in top 10% of high school graduating class)
______ 2. Selective (majority of accepted freshmen in top 25% of high school graduating class)
______ 3. Traditional (all accepted freshmen in top 50% of high school graduating class)
______ 4. Liberal (some accepted freshmen from lower half of high school graduating class)
______ 5. Open (all high school graduates accepted to limit of capacity)

3. Out-of-state student admissions requirements typically are

______ 1. the same as for resident students
______ 2. higher than for resident students
______ 3. lower than for resident students

4. Test results desired or required as part of the admissions application (check all that apply)

______ Only ACT accepted or required
______ Only SAT accepted or required
______ ACT or SAT equally acceptable
______ ACT preferred, SAT accepted
______ SAT preferred, ACT accepted
______ One or more CEEB achievement tests required
______ Other test results required
______ No test results desired or required

5. Freshman academic characteristics for most recent entering class (see ACT Class Profile Report or CEEB ATP Summary Report for Enrolled Students)

______ Mean ACT Composite, if applicable
______ Mean SAT Verbal, if applicable
______ Mean SAT Math, if applicable
______ Mean high school percentile rank

6. Grade point averages (4.00 = A, 3.00 = B, 2.00 = C, 1.00 = D)

______ Average high school GPA of last year's freshman class
______ Average first year college GPA of last year's freshman class

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ACT Institutional Data Questionnaire Verification

ACT CODE

C. Admissions (continued)

7. Graduates

2-year colleges

_____ % of entrants complete associate degree at this institution within 3 years

_____ % of entrants transfer to 4-year colleges

4-year colleges

_____ % of entrants complete baccalaureate degree at this institution within 5 years

_____ % of graduates continue on to graduate or professional schools

8. Fall term admissions

_____ Application deadline for freshmen
mo. day

_____ We have a freshmen application deadline

_____ Rolling admissions practiced

_____ Date freshman class is typically filled
mo. day

9. High school Carnegie units required for freshman admission

(Enter the number of Carnegie units (i.e., 1.0, 2.3) required in

	English	Foreign Lang.	Science	Math	Soc. Sciences	Electives
One general set of campus-wide requirements						
If different for specific areas enter below Liberal Arts & Sciences						
Engineering						
Other (please specify)						

10. Admissions and placement programs for freshmen (check all that apply)

_____ Admission for fall term only
_____ Early admission (enrollment prior to high school completion)
_____ Deferred admissions
_____ Candidates reply date agreement
_____ Special remedial skills courses
_____ Honors or accelerated courses
_____ Credit by examination
_____ Advanced placement
_____ Independent study

11. Other programs available for undergraduates

_____ Sororities or fraternities
_____ some with residence facilities
_____ Cooperative education program (study-work)
_____ Foreign study
_____ Summer session
_____ Air Force ROTC
_____ Army ROTC
_____ Navy ROTC
_____ ROTC required

12. Academic calendar (check one)

_____ 1. Traditional semester: Two approximately equal semesters

_____ 2. Early semester: Two semesters, first semester completed before Christmas

_____ 3. Quarter: Three equal terms of about 12 weeks each

_____ 4. Trimester: Calendar year divided into three equal semesters, third semester replaces summer school

_____ 5. 4-1-4: Two equal terms of about 16 weeks each, with a 4-week interim term

_____ 6. Other: Calendar not defined by any of the above

13. Release of ACT percentile rank information

_____ We authorize ACT to release to individual students percentile rankings of their ACT scores for our institution (based on Research Services participation) if they indicate our code as one of their college choices

D. Undergraduate costs

1. Tuition and required fees (such as activity, union, health, insurance fees when paid by large majority of students, not including room and board)

$_____ Resident tuition and required fees for academic year

$_____ Outside-supporting-area (district, county, etc.) tuition and required fees for academic year (if any)

$_____ Out-of-state tuition and required fees for academic year (if any)

2. Room and board

_____ Room and board facilities available (dormitories, other campus housing administered by the institution)

_____ Most freshmen (except those living at home) required to live in housing provided by the institution

$_____ Average room and board costs for academic year in facilities provided by the institution (double room rate, full meal plan)

E. Financial aid for freshmen

1. _____ Fall financial aid application deadline
mo day

_____ We have an aid application deadline

_____ Date financial aid is typically exhausted
mo day

2. Financial need analysis forms (in addition to institution's application, if any) to be filed for aid consideration (check one)

_____ 1. Only FFS-Family Financial Statement (ACT)
_____ 2. Only PCS-Parents' Confidential Statement or SFS-Student's Financial Statement (CEEB)
_____ 3. FFS or PCS/SFS equally acceptable
_____ 4. FFS preferred; PCS or SFS accepted
_____ 5. PCS or SFS preferred, FFS accepted
_____ 6. Other need analysis form preferred (own system, federal system, etc.)
_____ 7. None

3. Awards

_____ % of accepted freshmen with judged need offered some financial assistance

_____ % of accepted freshmen with judged need offered aid to meet full need

_____ Resident freshmen are given priority over nonresident freshmen in financial aid awards

4. Employment

_____ % of freshmen employed on or off campus during the academic year (part or full time)

_____ A service is available to help undergraduates find on or off campus work during the academic year (part or full time)

F. Students in programs and majors

Estimate the percentage of undergraduate students studying at your campus in each of the "families" of programs and majors listed below (specific programs and majors included in each "family" are listed on the next page; HEGIS code groups are listed in parentheses)

_____ % Agriculture (0100)
_____ % Business (0500, 5000, 5508)
_____ % Communications (0600)
_____ % Education (0800, 5503)
_____ % Engineering (0900)
_____ % Fine/Applied Arts (0200, 1000)
_____ % Foreign Languages (1100)
_____ % Health Professions (1200, 5200)
_____ % Home Economics (1300)
_____ % Humanities (1500, 1600, 2300, 5802, 5504)
_____ % Mathematics/Physical Sciences (0400, 0700, 1700, 1900, 5100)
_____ % Social Sci. (0300, 1400, 1800, 2000, 2100, 2200, 5501, 5505, 5506)
_____ % Trades/Technical (5300, 5400)
_____ % Other (please specify) _____
100%

ACT Institutional Data Questionnaire Verification

NOTE: Check all programs and majors available to students at your campus using the categories described at the right (more than one may be marked for each major). If you check a "general" program or major (e.g., Agriculture, general), also check all related specialized programs (e.g., Forestry) your campus offers.

Category 1: A *career-oriented* program primarily for direct employment preparation. May result in a certificate, diploma, or 2 year degree, not restricted to 2 years in length.

Category 2: A *group of related college credit courses* in a specific area (minimum of 3 or more semester courses, 4 or more quarter courses). At 2-year schools, may lead to a 2 year degree and/or enable student to transfer to further study in area. At 4-year schools, indicates less than a full major.

Category 3. 4-year institutions only. A *major* in a specific area as part of the baccalaureate degree or a [illegible] program such as predentistry or premedicine.

1 Career-oriented program
2 Group of college credit courses
3 Major

AGRICULTURE (0100)

___ ___ ___ Agriculture, general
___ ___ ___ Agricultural Business
___ ___ ___ Agricultural Economics
___ ___ ___ Agri./Farm Management (farming, ranching)
___ ___ ___ Agriculture, Forestry, Wildlife Technology
___ ___ ___ Agronomy (field crops, crop management)
___ ___ ___ Animal Science (husbandry)
___ ___ ___ Fish, Game, or Wildlife Management
___ ___ ___ Food Science and Technology
___ ___ ___ Forestry
___ ___ ___ Horticulture/Ornamental Horticulture
___ ___ ___ Natural Resources Mgmt. (soil conservation)

BUSINESS (0500, 5000, 5500)

___ ___ ___ Business and Commerce, general
___ ___ ___ Accounting
___ ___ ___ Banking and Finance
___ ___ ___ Business Economics
___ ___ ___ Business Management and Administration
___ ___ ___ Food Marketing
___ ___ ___ Hotel or Restaurant Management
___ ___ ___ Labor or Industrial Relations
___ ___ ___ Office Management
___ ___ ___ Marketing and Purchasing (sales, retailing)
___ ___ ___ Real Estate and Insurance
___ ___ ___ Recreation and Tourism
___ ___ ___ Secretarial Studies
___ ___ ___ Transportation and Public Utilities

COMMUNICATIONS (0600)

___ ___ ___ Communications, general
___ ___ ___ Journalism
___ ___ ___ Radio/Television (related to broadcasting)
___ ___ ___ Advertising

EDUCATION (0800, 5503)

___ ___ ___ Education, general
___ ___ ___ Agricultural Education
___ ___ ___ Art Education
___ ___ ___ Business, Commerce, Distributive Education
___ ___ ___ Elementary Education
___ ___ ___ English Education
___ ___ ___ Home Economics Education
___ ___ ___ Industrial Arts, Vocational/Technical Ed
___ ___ ___ Mathematics Education
___ ___ ___ Music Education
___ ___ ___ Physical Education
___ ___ ___ Science Education
___ ___ ___ Secondary Education, general
___ ___ ___ Social Science Education
___ ___ ___ Special Education
___ ___ ___ Speech Education

1 Career-oriented program
2 Group of college credit courses
3 Major

ENGINEERING (0900)

___ ___ ___ Engineering, general
___ ___ ___ Aerospace, Aeronautical and Astronautical
___ ___ ___ Agricultural Engineering
___ ___ ___ Architectural Engineering
___ ___ ___ Chemical Engineering
___ ___ ___ Civil Engineering
___ ___ ___ Electrical, Electronics, Commun. Engineering
___ ___ ___ Environmental and Ecological Engineering
___ ___ ___ Geological Engineering
___ ___ ___ Industrial or Management Engineering
___ ___ ___ Mechanical Engineering
___ ___ ___ Metallurgical and Materials Engineering
___ ___ ___ Mining and Mineral Engineering
___ ___ ___ Nuclear Engineering
___ ___ ___ Ocean Engineering
___ ___ ___ Petroleum Engineering

FINE/APPLIED ARTS (0200, 1000)

___ ___ ___ Architecture, general
___ ___ ___ Architecture Technology
___ ___ ___ City, Community, and Regional Planning
___ ___ ___ Environmental Design, general
___ ___ ___ Interior Design
___ ___ ___ Fine and Applied Arts, general
___ ___ ___ Applied Design (ceramics, commercial art)
___ ___ ___ Art (painting, drawing, sculpture)
___ ___ ___ Art History and Appreciation
___ ___ ___ Dance
___ ___ ___ Dramatic Arts (theater arts)
___ ___ ___ Music (liberal arts)
___ ___ ___ Music (performing, composition, theory)
___ ___ ___ Music History and Appreciation
___ ___ ___ Photography/Cinematography

FOREIGN LANGUAGES (1100)

___ ___ ___ Foreign Languages, general
___ ___ ___ French
___ ___ ___ German
___ ___ ___ Italian
___ ___ ___ Latin
___ ___ ___ Spanish
___ ___ ___ Russian

HEALTH PROFESSIONS (1200, 5200)

___ ___ ___ Health Professions, general
___ ___ ___ Dentistry (predentistry)
___ ___ ___ Dental Assisting
___ ___ ___ Dental Hygiene
___ ___ ___ Dental Lab Technology
___ ___ ___ Environmental Health Technology
___ ___ ___ Medicine (premedicine)
___ ___ ___ Medical Assistant, Medical Office Assistant
___ ___ ___ Medical or Laboratory Technology
___ ___ ___ Nursing (registered nurse)
___ ___ ___ Nursing (licensed practical nurse)

1 Career-oriented program
2 Group of college credit courses
3 Major

HEALTH (Cont'd)

___ ___ ___ Occupational Therapy
___ ___ ___ Optometry (preoptometry)
___ ___ ___ Pharmacy (prepharmacy)
___ ___ ___ Physical Therapy
___ ___ ___ Public Health
___ ___ ___ Radiology
___ ___ ___ X-Ray Technology
___ ___ ___ Surgical Technology (surgeon's assistant, etc.)
___ ___ ___ Veterinary Medicine (preveterinary medicine)

HOME ECON. (1300)

___ ___ ___ Home Economics, general
___ ___ ___ Clothing and Textiles
___ ___ ___ Consumer Economics and Home Mgmt
___ ___ ___ Family Relations and Child Development
___ ___ ___ Foods and Nutrition (including dietetics)
___ ___ ___ Institutional Management

HUMANITIES (1500, 1600, 2300, 5502, 5904)

___ ___ ___ Letters (Humanities), general
___ ___ ___ Classics
___ ___ ___ Comparative Literature
___ ___ ___ Creative Writing
___ ___ ___ English, general
___ ___ ___ Linguistics
___ ___ ___ Literature, English
___ ___ ___ Philosophy
___ ___ ___ Religion
___ ___ ___ Speech, Debate, Forensic Science

MATHEMATICS/PHYSICAL SCIENCES (0400, 0700, 1700, 1900, 5100)

___ ___ ___ Mathematics, general
___ ___ ___ Applied Mathematics
___ ___ ___ Statistics (mathematical and theoretical)
___ ___ ___ Computer and Information Sci., general
___ ___ ___ Computer Programming
___ ___ ___ Information Systems and Sciences
___ ___ ___ Systems Analysis
___ ___ ___ Data Processing Technology
___ ___ ___ Computer Operating
___ ___ ___ Data Systems Repair
___ ___ ___ Biological Sciences, general
___ ___ ___ Biology
___ ___ ___ Biochemistry
___ ___ ___ Botany
___ ___ ___ Ecology
___ ___ ___ Microbiology
___ ___ ___ Zoology
___ ___ ___ Physical Science, general
___ ___ ___ Astronomy
___ ___ ___ Chemistry
___ ___ ___ Earth Sciences
___ ___ ___ Geology
___ ___ ___ Oceanography
___ ___ ___ Physics

1 Career-oriented program
2 Group of college credit courses
3 Major

SOCIAL SCI (0300, 1400, 1800, 2000, 2100, 2200, 5501, 5505, 5506)

___ ___ ___ Community Service, general
___ ___ ___ Law Enforcement, Correction (police science)
___ ___ ___ Parks and Recreation Management
___ ___ ___ Public Administration
___ ___ ___ Social Work
___ ___ ___ Military
___ ___ ___ Social Sciences, general
___ ___ ___ Anthropology
___ ___ ___ Area Studies (Amer. Civilization, Amer. Studies, etc.)
___ ___ ___ Economics
___ ___ ___ Ethnic Studies (Asian, Black, Chicano Studies, etc.)
___ ___ ___ Geography
___ ___ ___ History
___ ___ ___ International Relations
___ ___ ___ Law (prelaw)
___ ___ ___ Political Science
___ ___ ___ Psychology
___ ___ ___ Sociology

TRADES/TECHNICAL (5300, 5400)

___ ___ ___ Trade, Industrial, and Technical, general
___ ___ ___ Agricultural Mechanics and Technology
___ ___ ___ Air Conditioning, Refrigeration, Heating Tech
___ ___ ___ Aeronautical and Aviation Technology
___ ___ ___ Appliance Repair
___ ___ ___ Automobile Body Repair
___ ___ ___ Automobile Mechanics
___ ___ ___ Business Machine Maintenance
___ ___ ___ Carpentry and Construction
___ ___ ___ Drafting, Engineering Graphics
___ ___ ___ Electricity and Electronics
___ ___ ___ Engineering Technology—Aeronautical
___ ___ ___ Engineering Technology—Automotive
___ ___ ___ Engineering Technology—Civil
___ ___ ___ Engineering Tech.—Industrial Manufacturing
___ ___ ___ Engineering Technology—Mechanical
___ ___ ___ Graphic Arts (printing, typesetting)
___ ___ ___ Heavy-Equipment Operating
___ ___ ___ Dry Cleaning, Laundry, Clothing Tech
___ ___ ___ Industrial Arts
___ ___ ___ Leatherworking (shoe repair, etc.)
___ ___ ___ Machine Working (tool and die, etc.)
___ ___ ___ Masonry (brick, cement, stone, etc.)
___ ___ ___ Metalworking
___ ___ ___ Plumbing and Pipefitting
___ ___ ___ Radio/TV Repair
___ ___ ___ Small Engine Repair
___ ___ ___ Upholstering
___ ___ ___ Watch, Instrument Maintenance and Repair
___ ___ ___ Welding
___ ___ ___ Woodworking (cabinetmaking, millwork)

___ ___ ___ GENERAL STUDIES

WHO'S RATING WHOM THESE DAYS AND WHY?

Archie B. Johnston
Director, Office of Institutional Research
Tallahassee Community College
Tallahassee, Florida

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on Institutional Research June, 1977

OFFICE OF INSTITUTIONAL RESEARCH
tallahassee
community
college

April 4, 1977

EVALUATION OF ADMINISTRATORS

I have been asked to speak today for a few minutes on the subject of "Strategies for Implementing an Evaluation System." Let me speak first of what we, at a 2900 student community college, have learned and the trials and errors we have experienced, then we may open the discussion for questions and hopefully some answers.

Before implementing an evaluation system there are a number of questions which must be addressed and to which answers must be found, lest, like the proverbial cowboy we leap onto our horse and ride off in all directions.

1. Is the purpose of implementing an evaluation system to increase the efficiency of the college or that of the individual occupying the administrative position being evaluated?

2. Will the results of the evaluation be used to reward or replace the admininstrator?

3. Were the pressures which brought about the evaluation system from outside the college or the result of inner-college politics?

If the purpose of the proposed evaluation is to increase the efficiency of the college the emphasis must be upon the function of the position and this precludes use of an universal standardized instrument for all administrative positions. The incumbent must work together with the designated rater to detail the position functions as they are and as they plan to be in the future. Relationships between this position and other positions must be clarified and fully coordinated with other administrators.

If the evaluation is of the incumbent then the results must affect him personally and will necessarily be subjective for which no apology need be made. In this instance one might make judicious use of input from those immediately below him in the administrative chain. They should be able to comment on his clarity of direction and leadership qualities. If the results of this evaluation are good, what type reward is planned for the administrator? A friend of mine once remarked that, "IBM has a new incentive plan: Meet your sales quota and keep your job!" If the outcome may result in replacement of the individual you must be certain to document each step you have taken over a period of time to advise the administrator of the imminence of losing his job.

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Self-evaluation might make one reflect upon his mode of operations compared with a personal ideal but the changes effected by such a self-appraisal are often either never implemented or lost when the individual soon reverts to type. To be a permanent change, it must be reinforced by contact with others.

It must be recognized that any form of evaluation is going to produce tensions both within the individual and within the organization. (A college reported that one administrator refused to see his evaluator viv-a-vis and another would see him only in the presence of his lawyer!) Severe anxiety may result if the evaluation is tied to a pay raise. It is probably far better to use evaluations as instruments to increase the efficiency of the college and secondarily to apprise the individual of his strengths and weaknesses.

On the note of confidentiality, it must be remembered that the fewer people who know of the rating the better acceptance it will have. As an example at our campus, student ratings of teachers are sent from the classroom directly to my office where I collect and maintain them until after grade reports have been sent to students at the end of the term. I process the rating cards through our computer and have the printouts returned directly to me. I then send them to the individual teacher through his academic division chairman. Neither the college president nor any of the deans have access to these ratings and they are a matter between the teacher and department chairman to whom he reports and who recommends employment or discharge of his teachers. Similar security should surround ratings of administrators.

I believe all ratings should be signed by both the rator and the ratee (although our student ratings of teachers are presently, and historically have been, anonymous). It is impossible to ask an anonymous rator for a clarification of a rating or remark or to consult with him to effect a measure of self-improvement. We are all either professionals, or studying to be, and if we haven't the courage of our convictions we should change occupations. Education is no haven for the morally irresponsible or weak; it is a crucible wherein we hope to forge character - mostly by personal example.

One must consider the processes which brought about the desire or need for a system of administrator evaluations. In the case of California colleges, such a procedure was a requirement from the legislature. However in many states, Florida for one (except for college presidents) the mandate must come from within the institution. Since the measurable product of an educational institution is often grade reports and since some form of grading is a daily occurance on campus, it should not cause considerable trauma when one suggests rating or grading teachers and administrators.

Unfortunately, rating of administrators often results from faculty attitudes along the line of, "If I'm going to be rated, he's going to be rated too." Such illogic may be followed to the final absurdity of the college president being rated by students, many of whom have never seen him. A joint committee of faculty and administrators developing a rating system should tend to eliminate such undesirable motives.

In May of 1975 our college president sent a letter of appointment and request to three faculty members and one administrative dean asking them to develop a system of evaluation of administrators. My services were made available to them as a resource person. We hammered out an instrument which was not too well done but could be easily administered and evaluated by the computer as is done with faculty ratings. After approval by the Faculty Senate and Administrative Council it was presented to the Board of Trustees for their concurrence.

The Board accepted neither the instrument nor the theory. They made it quite clear that they hired the president, they fired the president and they would rate the president. (Florida Board of Education Rules stipulate that Boards of Trustees must evaluate college presidents at the time of their contract renewal - 4 years at our college.) They further stated they did not favor faculty rating of administrators since there is insufficient contact between the administrator and the faculty upon which to draw valid conclusions. Administrators are on annual contract which must be approved, by individual name, by the Board of Trustees and they vest their powers of evaluation to the Office of the President.

Personally, if a standardized instrument must be used in order to provide comparisons between positions and/or colleges - and I do not approve of the concept of standardized evaluation instruments - I would recommend the one developed, and copywrited, by Professor Tyrus Hillway at the University of Northern Colorado. His is a two-part instrument with the first part evaluating the personal and professional qualities of the administrator and the second part relating to the methods used by the administrator in work performance. In all there are only about twenty questions.

We at TCC are now approaching the problem from a different tack. I believe the president will rate his deans and those others of us who report directly to him. The deans will rate those who report directly to them with the academic division directors rated by the dean of instruction. I also see some form of self or peer evaluation which would reflect the individual's abilities as a team member. In larger institutions a system is used whereby seven persons are named as possible rators and the ratee deletes two names. the remaining five make their evaluations and the top and bottom evaluations are deleted with the final evaluation based on the central three. I feel this is wasteful of the time of at least two rators which would tend to make their work less than precise and the end result is probably so bland as to be meaningless.

As an implementation strategy, each individual administrator could, perhaps over the summer period, develop a series of short and long range objectives and the means by which he plans to reach them. He could work these out cooperatively with his immediate superior, who should be his eventual rator, in order to reach a set of reasonable objectives which would fit within the total institutional goals and benefit the administrative system. Objectives should be of three types (1) personal, (2) organizational within his unit and (3) system-wide within the college philosophy.

At the beginning of the academic year, a formal agreement of these objectives should be reduced to writing. A preliminary rating could be made as a "dry-run" at the end of the first term or two and the instrument finalized and officially evaluated at the end of the academic year. This timing would provide input to the Board for consideration at contract renewal time. Objectives should be changed annually to reflect the changing conditions of the college and times.

It is important to recognize that development of an effective evaluation system is a time consuming affair and not to be entered into lightly. I would not recommend that a college adopt a system which is "ready-made" at some other institution. It should not fit your philosophy which should be an individual matter and it probably will not fit your administrative structure. If an outside system is forced upon your people you will be faced with resentment which will negate any good qualities of the system or value received.

Contact your local Educational Resources Information Center (ERIC) for micro-fiche and hard-copy reports of administrative systems in use. ERIC has an excellent service through their Clearinghouses and will give rapid and complete services. They are one of the most efficient services we have at hand.

A word about evaluations, merit pay and collective bargaining; keep all evaluation systems away from the bargaining table. Evaluation should be considered as an internal means of organizational improvement and not made available to arbitrators who may try to tie ratings to salary emoluments. If you already have merit pay it may not be possible to maintain this separation but we have successfully managed to avoid merit pay. Bargaining is by nature an adversary proceeding and admininstrator evaluations would merely be another point of friction which would benefit no one individual and certainly not the institution.

I recently received an excellent paper on evalution of the Chief Executive Officer, or president as we know him. A copy of this paper is attached and I really believe it would be to your advantage to read it. We have given copies to our College Board of Trustees, the Leon County School Board and I made a presentation of it to a seminar of the American Association of University Administrators in Mobile, Alabama.

Dr. Harold Koontz's paper, "Holding the CEO Accountable" is really a primer for governing boards and only addresses accountability of the CEO during its final paragraphs. The author is a highly respected authority on management and has published several books on that subject.

"John Q. Public" is becoming sensitive to the role of Boards particularly when corporations or institutions get into financial or legal trouble. Boards have recently been sued for their lack of positive leadership and lack of effective evaluation procedures to ward off calamities. It behooves each of us to provide our own Boards with all possible guidance to avoid such legal entanglements.

As a member of several Boards, I find one of my most difficult problems is that of conscientiously carrying out my duties in establishing policies without becoming enmeshed in the management role; which is more properly in the realm of the Chief Executive Officer. The solution is, of course, proper delineation of responsibilities at the onset. Dr. Koontz addresses this particular problem early in his paper under the heading "Allocating Decision Making Authority."

As a point of departure, Dr. Koontz has included a sample chart which anyone could use as a model for allocating his own responsibilities by substituting his organizational headings across the top of the charts in lieu of Department Manager, Staff Specialist and Division Director then adding or deleting divisions as appropriate. Likewise, the vertical headings could be modified to reflect specific functions of the Board and of the office of the Chief Executive Officer. The result could very well be a vehicle for guidance of who should do what to whom.

"...research has shown that the most important single cause of managerial failure is inept-i.e., inappropriate delegation of authority," says Dr. Koontz. We have all experienced the desire to "do it myself" because its easier than explaining to someone else - or is it because we don't have it clear enough in our own minds to explain it to someone else? He writes of nine different types of decisions and the importance of taking our responsibilities seriously and then again he stresses verifiable objectives which can be stated in quanitative or qualitative terms and the use of target dates. He repeatedly speaks of the desirability of carefully delineating objectives.

In the remarks under "Evaluating the CEO" Dr. Koontz writes of the appraisal of managers at all levels as being one of the weakest links in management and he says that he has long considered appraisal management's Achilles' Heel. I was happy to see that he also advocates evaluating managerial performance according to two sets of standards with one set concerning the establishment and achievement of verifiable goals and the other set concerning the actual performance of the manager. This, of course, has been my premise all along; questioning whether you evaluate the individual or the position.

Those of you who are interested in developing an evaluation of the president of your college or institution might do well to take note of a study recently conducted by Dr. Barry Munitz Vice President and Dean of Faculties at the University of Houston. Dr. Munitz conducted a study from July, 1973 to April, 1976 under the guidance of the Fund for Improvement of Post-Secondary Education, during which time he investigated presidential leadership at American colleges and universities. The result of this investigation is an excellent paper entitled "Presidential Evaluation and Assessment of Institutional Leadership" published in March of 1976. I have a copy of this or you may obtain a copy of your own by writing to Dr. Munitz.

At our college we have an evaluation system for students (grades), for faculty (faculty evaluations) for career service (annual rating reports) and will soon have one for administrators-perhaps sometime this year. If I may be of further service to you, please do not hesitate to write or call. I promise all the help I may be able to offer for I realize that the responsibility you shoulder is great. Good luck.

Archie B. Johnston

Archie B. Johnston, PhD.
Director

Holding the CEO Accountable

HAROLD KOONTZ, PhD

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Boards of directors, trustees, regents, or commissioners that have been charged by law with management responsibility for a business, government agency, hospital, or other enterprise are faced with the problem of how to discharge this responsibility, particularly the task of holding the chief executive officer (CEO) accountable. Even though boards may be given the task of "managing" an enterprise, they have in reality no choice but to delegate considerable managerial authority to their CEOs and, through them, to department heads. There should never be any doubt, however, that CEOs must report to their boards and must be accountable to these boards for their own actions and those of their lieutenants.

In fact, however, in many business and nonbusiness operations, CEOs want boards to act only as advisors, to be their instruments, to be supportive, and not to be concerned with managing. Many CEOs take the position that the board's job is to support them or replace them, to let them run the enterprise, to reward them if they succeed, and discharge them if they fail.

It may be true that most boards are simply instruments of the CEO. It may be, as Harvard's Myles Mace found, that the idea that boards do more than act as advisors, except in rare cases of crises, is a myth.[1] It is probably true that far too many boards do not direct, are passive observers and advisors, are "rubber stamps," and are confused about their role in the management of both business and nonbusiness organizations.

Pressures for More Effective Boards

Whatever the realities, there is no doubt that investors, customers, employees, and a concerned public are now pressuring boards to fulfill their legal and social responsibilities. Boards have clear responsibility for the organization's management, for overseeing the effective and efficient achievement of preselected missions and objectives, and for assuring that actions taken to meet goals are responsive to the entire environment in which an enterprise operates—an environment that includes economic and market, technological, political-legal, social, and ethical elements.

Dr. Koontz is Mead Johnson Professor of Management and chancellor, International Academy of Management, Graduate School of Management, University of California-Los Angeles. He is the author of several books, including Appraising Managers as Managers *and* The Board of Directors and Effective Management.

Recent events have clearly indicated that when companies, government agencies, hospitals, and other operations get into trouble, the first and loudest public outcry is: "Where was the board?" When Penn Central suddenly went bankrupt, when Lockheed experienced financial crisis, when many companies were caught in political payoffs, and when a number of hospitals were found to be overbuilt and to be run inefficiently, the question raised by a stunned and outraged public was: "Where was the board?"

Such public response raises urgent questions of board responsibility and of what boards can and should do to hold CEOs and their lieutenants accountable. This article outlines a workable program that has been successfully implemented in some of our best managed business and nonbusiness organizations.

Questions and Requirements

Board members understandably have many questions about how they can discharge their responsibility and hold CEOs accountable. Among the most important questions are the following:

1. What is the proper and practical board role in management?
2. How can a board make any important independent decisions when its members must rely on analysis and recommendation from inside the organization that must be funneled through the CEO?
3. How can a board hold a CEO accountable without intimate knowledge of operations since it must depend on the CEO for this knowledge?
4. How can a board evaluate the performance of a CEO? What standards should it, and can it, use as the key indicators of performance?
5. How can a board be sure that it is operating effectively?

To help answer these questions and make it possible for boards to hold the CEO responsible, action must be taken to:

1. Clearly allocate decision-making authority between the board on one hand and the CEO and operating management on the other in order to make sure that the board is involved in decisions it should make and does not meddle in operating decisions that it should delegate;
2. Create a climate in which boards can produce intelligent and independent decisions;
3. Provide adequate control information tailored to the board's needs;
4. Establish a means by which to evaluate CEO performance; and
5. Insure effective board performance.

All of the above actions constitute a large order, and only a summary of the requirements can be attempted here.[2] All of these actions, however, have been achieved in a few cases, and some have been successfully implemented in a number of instances. They therefore can be done.

Allocating Decision-Making Authority

Accountability cannot be meaningful without a clear definition and understanding of an individual's authority to make decisions. One of the common complaints of both board members and operating executives is that boards, CEOs, and operating executives do not have a clear understanding of the areas in which they have authority to make final decisions. The result is that board members may meddle in operating matters that should be delegated to the CEO and his subordinates. It likewise leads to CEOs' and operating managers' making decisions that the board should reserve for itself. As experience has shown, the result is that CEOs often look at boards as advisory bodies with no real interest in making decisions. In any event, friction, inefficiency, and irresponsibility tend to result. And, above all, the danger exists that the board will not meet its legal and social responsibility for the effective management of an enterprise.

Use of a chart of executive approval authorizations. The problem can be greatly clarified and simplified by means of a chart of executive approval authorizations, a tool which any organization, large or small, with any significant delegation of authority should utilize. The chart, usually printed on a single sheet, is simply a technique whereby the various authority delegations of an enterprise may be outlined and clarified. Since most delegations are concerned with the right to commit for money, most of the chart is concerned with expenditure limits. Other matters, however, such as determination of objectives and strategies, can and should be shown on the chart.

The basic nature of such a chart is apparent in the abridged **Table.** A list of major decision areas appears on the left-hand side of the chart. These are grouped under the classifications of personnel; capital expenditures and commitments; operating expenses; pricing; major objectives, strategies, and policies; major programs; and other. Listed across the top of the chart are the various managerial levels which have approval authority, and certain staff positions that either have functional authority in a decision area or whose participation is necessary for advice or information.

When a chart is developed, a division must be made between those decisions that are in the province of the CEO and the departmental subordinates and those belonging to the board. When such a division is established—and approved by the board—the board then knows what it must approve and the CEO knows what must be and need not be brought to the board. Such a chart, especially if it is carefully followed, also serves to give board members a good insight into, as well as a chance to control, the CEO's practice of authority delegation. Indeed, research has shown that the most important single cause of managerial failure is inept—that is, inappropriate—delegation of authority.

Decision areas boards should probably not delegate. The question may be raised concerning what decisions a board should reserve for itself. Essentially, these are: (1) those decisions for which statutes, a charter, or bylaws expressly require board approval, and (2) those decisions necessary to assure the long-term viability and effectiveness of an enterprise in accomplishing its mission or purpose. Obviously, if boards actually make such decisions, this process alone will go far in assuring control of the CEO.

My research with a large number of business and nonbusiness enterprises in a number of countries throughout the world, as well as my consultation with some 1,500 directors and top executives, has led me to conclude that the following decisions should be reserved for the board.

1. *Decisions prescribed by law or charter.* While such prescriptions may vary and tend to be much more detailed in government agencies, they are likely to include such matters as appointment of officers, approval of acquisitions and mergers, programs of stock options to executives, authorization of issuance of new stock or bonded indebtedness, approval of major leases, and the various matters that are required to be presented to stockholders or other enterprise constituents.

2. *Decisions determining total enterprise objectives or goals.* If a board of directors has responsibility for anything in the management of a company or other

TABLE: Sample Chart of Approval Authorization*

NATURE OF TRANSACTION	DEPARTMENT MANAGER	STAFF SPECIALIST	DIVISION DIRECTOR	CHIEF EXECUTIVE OFFICER	BOARD
1. PERSONNEL					
Employment of new personnel — Hourly	All in area	Personnel manager to process and review for consistency with policy	All exceptions to policy		
Salaried	All in area	Personnel manager to process	All	All over $1,000 per month	All officers and over $2,000 per month
2. CAPITAL EXPENDITURES					
Capital expenditure budgets	All in area	Financial officer on all	All in area	All	All
3. OPERATING EXPENSES					
Budget system				All	All
Operating expense budgets	All in area	Financial officer on all	All in area	All	All
4. PRICING					
Basic pricing policy		Financial officer on all	All in area	All	All
Prices		Financial officer on all	Marketing manager on all	All nonstandard items	
5. MAJOR OBJECTIVES, STRATEGIES, AND POLICIES	All in area	Planning officer on all	All in area	All	All
6. MAJOR PROGRAMS	All in area	Planning officer on all	All in area	All	All involving new product lines, executives, personnel, and expenditures over $50,000
7. OTHER					
Bank loan line of credit		Financial officer on all		All	All

*This sample is not intended to indicate a complete list of approval items enterprise, it must be the determination of the total enterprise objectives or goals. These are, of course, the desired endpoints of the entire operation. All other actions should be made to contribute to the achievement of such objectives.

It is not enough for a business to say that its objective is to make a profit, or a hospital to say its objective is to care for and assist in the treatment of the diseased or disabled, or a county health department to say its goal is to improve the quality of public health services. This kind of statement is far too general to have any real meaning. To be meaningful, an objective must be verifiable; that is, at a future target date, actual performance must be compared to the objective in order to determine whether it has been accomplished. Moreover, major objectives imply a knowledge and understanding of mission. For example, it is not enough for a business to say that its purpose is to make a profit. Its mission must express the kind of business intended, the kind of products, and the kind of markets.

While there can be no doubt that boards have responsibility for determining enterprise missions and objectives, it must be recognized that such goals can seldom be developed from discussion by a group of individuals. CEOs and their operating groups must be a staff resource that suggests, clarifies, and sharpens objectives for a board. But boards have the responsibility and must exercise the authority to insist that this staff work be done thoroughly and competently; to weigh the verifiability, adequacy, and attainability of these objectives; and to approve them as the controlling expression of the enterprise.

3. *Decisions involving approval of major strategies and policies.* Few directors and not enough top executives understand the meaning and importance of major strategies and policies. Strategies are general programs of action with an implied commitment of emphasis and resources to achieve a basic mission. They are patterns of major objectives, and major policies for achieving these objectives, conceived and stated in such a way as to give an organization unified direction. Policies are guides to thinking in decision making, and their essential quality is the existence of discretion for the decision maker; policies are intended to place some bounds, often broad, on this discretion.

Since major strategies and policies give direction to an enterprise, they, like major objectives, should be subject to board approval. In any business (and these considerations are likely to be important to a hospital), and even in many nonbusiness enterprises, the major strategy and policy concerns are likely to be: (1) *new or changed products or services,* since these will largely determine what a business is; (2) *marketing,* since it deals with how customers are reached and how they are persuaded to buy; (3) *growth*—how much growth, how fast, and where; (4) *finances*—every business and, for that matter, every nonbusiness must have clear strategies and policies for financing its operations; (5) *organization*—the kind of basic organizational pattern to be developed, the type of divisionalization and departmentalization, and the degree and nature of decentralization; (6) *personnel,* especially in such areas as compensation, selection, training and development, recruitment, and union relations; and (7) *public relations,* whose strategy will largely depend on other strategies and policies, the closeness of an enterprise to the public, and its degree of regulation; but it has become increasingly true that more and more organizations must be actively concerned with public attitudes as well as with public understanding of their operations.

Many would argue that to involve boards in approving major strategies and policies is to get them into operating matters and decisions. This is not true. The board is involved only in the major *directions* of an enterprise and not in day-by-day decision making to effectuate these directions.

4. *Decisions involving appointment of officers and major managers.* In general, statutes require that officers be appointed by the board. Actually, what boards usually do is to *appoint* CEOs and *approve* their nominations of other officers. In addition, for two reasons, it is good practice for boards to *approve* CEO nominations of the nonofficer managers who report to them. First, the board can be assured that the chief is selecting highly qualified persons, and, second, it is probable that the future chief executive will be appointed from among these persons.

5. *Decisions involving approval of top management compensation and compensation plans.* Clearly, such approval is one of the most important elements of board control. When a management stock option or bonus plan exists, a board committee should administer the program.

6. *Decisions involving approval of budgets and budgeting.* Since budgets are, or should be, simply the monetary equivalent of plans, board control would be inadequate unless summary operating budgets and capital expenditure budgets were submitted to the board for review and approval. It is even desirable for the board to have the power to approve the kind of budgeting system used, since the *way* budgets are developed affects their meaning, content, and validity.

7. *Decisions involving approval of major plans and program commitments.* What is "major" depends on the enterprise. In general, a major program or commitment involves large amounts of resources, important

areas of reputation, long-term commitments, and decisions with considerable human impact.

8. *Decisions involving approval of independent auditors and general counsel.* Public auditing firms and general legal counsel are key advisors to the board; therefore, the board should select them. In many cases, the selection of auditors is even submitted to stockholders or other constituent parties for their approval.

9. *Decisions involving other areas.* Laws or charters may require board decision on various other matters. Those matters subject to stockholder or other constituent approval must be brought to the board

Encouraging Independent Board Decision Making

To reserve certain major decision making for the board is one thing, but to avoid making boards casual "rubber stamps" of CEOs' proposals is quite another. Granted, boards are to a considerable extent dependent on staff work done by CEOs and their subordinates. But boards can take certain actions to assure themselves a high degree of decision-making effectiveness

One such action is to insure that the CEO is not also the chairman of the board. The board then remains an independent body to which CEOs can and will report. Board members should take their positions seriously, realize their importance and liabilities, and exercise their judgment independently.

Boards must insist that the CEO present proposals that are thoroughly researched and that take into account problems and opportunities. Insisting that such matters as major objectives, strategies, policies, and programs be submitted to the board will help assure needed planning and encourage accountability to the board.

By asking discerning questions, intelligent and experienced board members can find out quite easily whether a proposed course of action has been analyzed, thought through, and leads in a desired direction. One need not be immersed in internal knowledge of an operation to determine whether these proposing a course of action know what they are talking about. As a former assistant to a corporate president whose job was to prepare the president for such questions, and as a board member who has often asked such questions, I am convinced that these questions can unearth needed information, quickly show gaps in research and analysis, and keep the top executive from placing a half-baked proposal before a board. Any CEO worthy of the trust placed in him will not resent, but rather welcome, such careful cross-examination by members of the board. It is not the board's job to second-guess CEOs in any sense of the word. Rather its task is to be as certain as possible that a proposed course of action is sound.

It is important that board members maintain a tradition of individual independence. A deficiency common to all groups attempting to work together is their tendency to seek unanimity, their desire to be agreeable, to make compromises in order to reach unanimity. Board members must exercise their independent judgment if they wish to accomplish the best possible review and analysis of proposals. Decisions that are not unanimous should not be considered undesirable. As a matter of fact, courts have repeatedly stipulated that board members have the right and obligation to express their individual viewpoints and arrive at conclusions after deliberate consideration of an issue.

To the extent possible, proposals offered and actions taken should be cast in a framework of *verifiable* objectives. These can be stated in quantitative terms, such as dollars of costs or profits, or in qualitative terms, such as a training program with certain definite characteristics to be accomplished by a given target date. An extremely important part of this system of setting objectives is a well-considered and agreed-upon list of verifiable objectives for the CEO. The compilation of such a list can and has been done. These objectives set the stage for one of the most important functions of boards in holding CEOs accountable: to verify whether an approved action did give rise to promised results.

Tailoring Control Information to Board Needs

Having identified those final decisions it should reserve for itself and, in so doing, having the means by which to hold the CEO accountable for presenting well-reasoned and well-researched proposals, the board has established the major standards against which it can measure organizational performance. Just as control without planning is aimless post mortem, planning and decision making without control are useless. Every manager has an obligation to make as certain as possible that decisions and plans become realities. Such a determination requires information about the progress being made with respect to established objectives, strategies, policies, and programs. Although decisions concerning these matters may be the responsibility of a board, their effective execution is the responsibility of the CEO. In order to determine whether the CEO is accomplishing what is intended, the board must receive information and reports at regular intervals.

The needed information should parallel areas of decision-making concern. Thus boards should receive reports on progress toward major objectives, on how strategies and policies are being developed and implemented, on how performance against budgets is proceeding, and on how well the organization is actually achieving major plans. Too often, boards spend much time deciding on a strategy or a major program and then pay little attention to how it evolves. For example, a program to acquire some expensive equipment or expand building space may be begun on the justification that it will result in considerable operating cost savings. But the validity of this justification will never be tested if board members never ask the CEO to report on what the new program actually did accomplish a year or more later.

It is natural that most of the control information required by boards concerns finances—income and expense statements, actual versus budgeted expenditures, cash needs, progress toward long-range forecasts, and similar items. Perhaps undue emphasis may be placed on financial reports. But these reports, if used and analyzed properly, directly reflect operations. However, many nonfinancial items of information also are needed. These include periodic reports about new product or service developments and about what is being done to meet social responsibilities, and summary personnel reports containing data on employee turnover, grievance volume, status of union relations, extent of promotion from within, and training program progress.

A number of control and information system deficiencies tend to diminish the effectiveness with which boards hold CEOs accountable and thus to make boards passive bystanders who engage in useless post mortems. Perhaps the most significant deficiency is the after-the-fact nature of most control information. There is little that anyone can do about the past. Future-oriented controls, that is, control techniques that yield information outlining what will happen if action is not taken now, are needed. Regular use and revision of forecasts that are compared to ultimate goals can help. Network planning, as exemplified by Program Evaluation and Review Techniques or Critical Path Methods, can disclose many problems soon enough to do something about them. Moreover, feedforward (in contrast to normal feedback) control techniques[1] can be employed in key areas such as inventories although few organizations have made use of such techniques.

To be effective for control purposes, reports and information must be tailored. Board members must receive pertinent, readily comprehensible material. Too often, CEOs and financial officers give boards only that information that the executives believe the board should have, and even this information is presented in a form difficult to understand.

Of course, controls are no better than the planning on which they are based. This limitation is nowhere more obvious than with budgets. If budgets have been established by precedent (that is, this year's budget is merely an extension with minor changes of last year's budget) rather than based on next year's plans and if costs, for example, have been determined on the basis of what they *should be* in relation to the current set of programs, control is likely to be little more than a rehash of what has been done instead of an attempt to assure what should be done.

Evaluating the CEO

Although programs that evaluate a CEO's performance on a regular basis are rare, there is no better method by which to hold a CEO accountable. Unfortunately, appraisal of managers in all kinds of organizations at all levels is one of the weakest links in management; indeed, I have long considered appraisal management's Achilles' heel. It is generally agreed that the quality of managers makes the most difference in the efficiency and success of any kind of group operation. Consequently, it is shocking that so many companies, government agencies, and other kinds of organizations appraise managers according to subjective and generally meaningless standards such as personality and work characteristics.

On what should a managerial appraisal program be based? In my opinion, a double-barrelled approach that evaluates managerial performance according to two sets of standards is needed. One set concerns the establishment and achievement of verifiable goals, and the other set concerns actual performance as a manager. No one should want a person in a managerial role who appeared to do everything right but who could not turn in a record of performance. Nor should one be satisfied to have a performer who cannot effectively operate as a manager. Performers are too often "flashes in the pan," and many managers have succeeded through no resources of their own.

Appraising the establishment and achievement of objectives is a corollary of a well-conceived and well-operated program of management by objectives. Criteria include a manager's goals (and the intelligence with which he selects them), the programs he devises to accomplish these goals, and his success in achieving them. Many who have used this system of evaluation have argued that this standard is adequate because fortuitous factors beyond a manager's control are always considered in an appraisal. But this position is open to doubt.

I believe that an evaluation of a manager's goal setting and goal achieving performance must be supplemented by an evaluation of his performance as a manager. Such evaluation can be and has been done by using a checklist of questions designed to reflect management principles of planning, organizing, staffing, leadership, and control.[5] As imperfect as the principles of management may be, they provide evaluators with bench marks to determine whether managers understand and are following the basics of management. Using a system of 73 questions which I developed, some evaluators have cast considerable light on managerial performance although they did not achieve complete objectivity of evaluation.

That a board should insist on as effective a managerial evaluation program as possible is hardly arguable since it is well documented that assuring the quality of managers at all levels is almost certainly the best kind of control. Qualified managers make the fewest mistakes, make decisions supportive of an organization's mission and success, become the most effective leaders, and are most likely to recognize opportunities, perceive problems, and take action to correct deviations from plans.

Undertaking an effective evaluation program requires considerable effort, and applying such an evaluation to the CEO is difficult. I suggest that a board committee—necessarily comprised of outside directors—confer with the CEO each year a year in advance in order to establish the verifiable objectives or goals for whose achievement the CEO accepts responsibility for that year, and preferably, for years hence. Performance evaluation then becomes a fairly simple and objective process. CEOs also can be evaluated on the basis of managerial abilities and style by a similar committee whose members have had an opportunity to observe these characteristics.

Having helped evaluate several CEOs using this system, I know this type of evaluation can be done. In every case with which I have had experience, the CEO welcomed the exercise and the challenge. In one case, for example, the CEO admitted that for the first time he knew what the board expected. In another case, when the CEO and I simultaneously evaluated his managerial ability against the checklist, not only did he evaluate himself lower, but he remarked that, in spite of his experience and continuing education, he for the first time really understood what managing required.

Insuring Board Effectiveness

While there are various ways in which boards can hold CEOs responsible, nothing can or will be done unless boards themselves are effective. This statement means that those who control an organization must make up their minds that they want an effective board. In many instances, founders with a majority stock control in a company and CEOs who have the power to hire and fire board members have decided that they wanted an effective board and have appointed independent outsiders with the clear understanding that the board is to control the CEO and not act merely as an advisory subordinate. Their purpose was clear; they wanted to feel accountable to people other than themselves.

Operating in this way means boards must carefully define matters on which they will make decisions and insist that only carefully researched and analyzed proposals be placed before them. The board also must elect a competent chairman. Also, board members must understand their role in management and recognize that management is an intellectually based, challenging, and difficult profession. To this end, although the practice is rare, board members should be subject to some of the same training and development required for operating executives. Only directors who will act in the interest of the organization as a whole should be selected. Although members should represent a balance of expertise and points of view, they should not think of themselves as representing special interest groups.

Although rarely done, a periodic audit of the quality of board operations and performance is wise. The audit can be done by a committee of experienced outsiders, by an observant board secretary, or even by an outside consultant. After all, only a board that is effective in carrying out its own responsibilities can hold a CEO accountable. ★

FOOTNOTES

1. Myles Mace, *Directors: Myth and Reality*, Harvard University Press, Cambridge, MA, 1971.
2. For a more detailed explanation, see Harold Koontz, *The Board of Directors and Effective Management*, McGraw-Hill, New York City, 1967, and Harold Koontz, "How To Assure Effective Senior Management," *The Corporate Director: New Roles, New Responsibilities*, Arthur D. Little, Inc., and Cahners Books, Boston, 1975.
3. Courtney C. Brown strongly supports this separation, as well as a completely "outside" board, in *Putting the Corporate Board to Work*, Macmillan, New York City, 1976.
4. For a discussion of the nature and application of feedforward control, see Harold Koontz and Robert W. Bradspies, "Managing Through Feedforward Control," *Business Horizons*, June, 1972, pp. 9, 925-36.
5. A complete report on this system of appraisal and experience with it in a multinational company is in Harold Koontz, *Appraising Managers as Managers*, McGraw-Hill, New York City, 1971.

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RESOURCE RATIOS AS A MEANS OF INSTITUTIONAL EVALUATION AND DECISION MAKING

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RESOURCE RATIOS AS A MEANS OF INSTITUTIONAL EVALUATION AND DECISION MAKING

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No matter how momentous a decision, or how difficult making that decision may seem at the time, very few college or university administrators are ever faced with deciding the ultimate fate of an institution. Obviously the cumulative effects of administrative decisions could bring the demise of an institution, but in view of the relatively small number of colleges and universities that actually go out of business, it would appear that even taken in total, most administrative decisions are not a matter of institutional life or death.

On a smaller scale, however, decisions to amputate programs, majors, faculty or staff are becoming more apparent, as are transfusions of new administrative blood or even transplants of institutional control and authority, all in an apparent effort to improve the quality of institutional life if not to prolong it. As difficult as it is to kill off institutions, it may still be true that many are dying a very slow but certain death, living with a great deal of pain and suffering, or in fact living by means of some external life support system in the form of low faculty salaries, little or no plant maintenance, tax susbsidies, or borrowing from endowments.

While there is no apparent reason to believe that the ills confronting colleges and universities are communicable, there is really no clear evidence that weaker institutions are not leeching valuable life support from or in some way leading to the contamination of the healthier ones. Consequently, institutional health becomes a question for all to consider, not just administrators of the infirmed, seriously ill, or terminally afflicted colleges and universities.

Although it is not the purpose of this paper to discuss institutional euthanasia, the concept is hard to avoid when examining institutional health and vitality and, with the increasing emphasis on consumerism in higher education, institutions which are leading less than full lives may have to be laid to rest.

At issue in this paper is a proposal to measure institutional health or vitality and to assist in the decision making process by use of various resource ratios as institutional vital signs or "health" measures.

The use of medical analogies in this paper is by design, and the exploration of institutional health will follow a medical model rather than pursue the question in economic or financial terms as is usually done. This is not to say, however, that things economic and financial should not be considered, only that institutional resources should be explored as though the institution were being given a physical exam by a physician, not a fiscal audit by an accountant. Nor is it possible to claim that the medical model and analogies are perfect, any more, at least, than one could claim economic, business, financial, or engineering models fit education perfectly. A medical model for reviewing institutional health and vitality, however, does appear to give more weight to unique individual characteristics in making diagnostic or prognostic evaluations than the more static economic models.

It will also be evident that the measures used to examine institutional health are not newly formulated for this paper and it will also be quite clear that no miracle drug or cure has been found to give eternal life or insure good health to all institutions. Hopefully an alternative method using resource ratios to develop an institutional "medical" profile will emerge and which, when tested, will give the administrator-physician a decision-making frame of reference which will lead to a healthier and more viable institution.

An individual's health or vitality is generally assessed by means of a physical examination, an evaluation conducted by a physician using various tests to measure vital signs and bodily functions. The tests and measures can run from the very simple and routine body temperature, pulse, and respiration rate to complete body scans using the latest x-ray and computer technology. For the most part, however, the tests and resulting medical profiles are only indicators of the condition or health of the organ or bodily function or the general well being of the individual and are typically not important for their own sake. One does not die of elevated temperature, elevated or decreased respiratory or pulse rate, but rather one succumbs to what has caused the symptoms: the vital signs or health measures are symptomatic of the problem, not the problem itself.

Real or potential individual health problems are identified by comparing vital signs and profiles to standards developed over the course of time on what is normal for the typically healthy person of the same sex, age, and other similar personal characteristics. When the vital signs or measures fall outside the accepted range of normal scores, further examination is undertaken to determine the cause of the apparent problem. Medical histories, research, and science have documented a number of the causes of abnormal symptoms so the physician has known possibilities to explore to determine the casual problem. Unfortunately, the vital signs do not always reveal a problem when one exists, nor are the causes always easy to detect, to isolate, to remedy or to cure.

Analysis of institutional health should follow a similar pattern, utilizing a set of simple to complex measures and tests of vital signs, or resource ratios, in this case, to determine the functioning of various programs, objectives, offices, or other component parts of the institution. Institutional health, like individual health, is really a composite conclusion determined by the healthful functioning of all of its various systems and functions. It would be as much an error not to examine all of the vital parts of an institution, as it would be to only note an individual's height and weight. Regrettably, educational history, research, and science have not produced or documented what is normal or abnormal experience for colleges and universities and no real guidelines exist for comparison of an institution's vital signs against a "healthy" norm. Nor, for that matter, has there been an institutional health profile developed to guide institutional diagnostic or prognostic work.

Resource ratios, the institutional counterparts to vital signs and medical profiles, are similarly only symptomatic of the problems that confront the college or university and the institutional researcher and/or decision-maker must be ready to seek the cause of the real or potential problem indicated by the test. The cause of the institution's problem may not be any easier to detect, isolate, remedy, or cure than the cause of the individual's problem; in fact, it may even be more difficult in light of the lack of comparable normative or profile data.

Some have hoped that the data from HEGIS reports or the work of the National Institute of Education or the National Center for Educational Statistics or the Information Exchange Program of NCHEMS would provide institutional norms or profiles useful in this context but that has yet to happen and many have lost hope that it will ever happen. Two notable exceptions are the recent study of the financial state of higher education conducted by Change magazine, ("The Financial State of Higher Education," Change, September 1976), and a study by Melvin Orwig and Dennis Jones ("Why Not 'Indicators' for Postsecondary Education") reported at the 1977 AIR Forum. Indications at least that the institutional health profile concept is being considered and developed as a viable approach to institutional evaluation.

Although the emphasis of this paper as well as the Change study and the Orwig-Jones research is directed toward the question of how to determine a healthy institution, it is appropriate to consider at the same time the question of how good institutional health can be achieved or maintained.

An individual will seldom escape the doctor's office without some advice on how to stay healthy or with our specific instructions on how to improve health and it is generally understood, though not always practiced, that the patient will decide to modify whatever behavior is necessary to secure good health. In either event, the patient does have some notion of what the impact of his decision to smoke or not to smoke, to exercise or not to exercise, to diet or not to diet will have on his health. While a college or university administrator is typically subjected to considerable advice on how to achieve good institutional health, as well as speculations on the impact of his/her decisions on institutional health, it isn't clear that accrediting agencies, auditors, or faculty are any more informed about institutional health than are "quacks" who peddle "drinking diets," salt water cancer cures, or copper bracelets. Unfortunately there isn't any real source of authoritative advice on how to achieve or maintain institutional health, and the consequences of administrative decisions on institutional health aren't as predictable as the likely consequences of an individual's decisions on human health.

Decisions affecting institutional health are not seemingly as clear cut as the decisions which affect individual health, and it isn't always a simple matter to take the institution's pulse, temperature, and respiration. Resource ratios however may prove to be comparably easy measures of institutional health and hopefully will also prove to be sources of useful data to monitor administrator decisions. If so, analysis of resource ratios may provide important feed back (perhaps in bio feed back fashion) on the consequences of administrative decisions and will in turn be a means of controlling institutional health.

For resource ratios to assume a primary role in achieving and reassuring institutional health, two important related steps must be accomplished. First, measures must be identified which will adequately describe and represent institutional health and second, "normal" ranges of the institutional health measures must be ascertained through well documented case histories of institutional "health" and educational research. The previously mentioned Change study represents a critical first step in both of these areas, and particularly the second. If the Change study falls short in the first instance, it would be because it dealt only with financial resources or directly related financial issues. Two other important resources of an institution, people and facilities also need to be considered.

The significance of the resource ratios in determining institutional health will depend on the research mentioned as the second step of the Change study. It may well be that some of the ratios illustrated in this paper or developed for analysis by others won't prove to be discriminating in measuring institutional health. If fact, some of the ratios illustrated here are used because they may be more important in helping the administrator achieve or maintain institutional health than in helping evaluators measure it. Illustrations of resource ratios believed to be of potential value to administrators and evaluators in their decision-making roles both as physicians and patients follow, with primary emphasis on ratios involving students, faculty, administration and staff.

An effort to use data that is commonly maintained by institutions has been made, as well as an effort to keep the ratios and analyses rather simple. More complex analyses can and should be utilized when the ratios are not consistent with institutional, regional or national norms and guidelines, and indicate the need for further diagnosis and prescription for change.

Student Resource Ratios

1.) $\frac{\text{Number of New Student Applications This Year}}{\text{Number of New Student Applications Last Year}}$

This first illustrative ratio tells a quick story about the institution's drawing power within its applicant pool and some would say it is most revealing of the institutional vital signs. The ratio doesn't have to be one or more for the institution to survive, but it shouldn't be less than one for any length of time. Further analysis could include a comparison of new freshman, and new transfer and graduate applicants with the respective previous year figures, or, of course breakdowns on other student characteristics.

2.) $\frac{\text{Number of Accepted Students}}{\text{Number of Applications}}$

3.) $\frac{\text{Number of Enrolled Students}}{\text{Number of Accepted Students}}$

4.) $\frac{\text{Number of Enrolled Students}}{\text{Number of Applications}}$

Ratios of accepted and enrolled students to the number of applications (2,3,4) may be more diagnostic than prognostic in character, and they may not be very helpful in comparisons with some healthy institution norm. They can help detect trouble spots if they are carefully monitored and if any remarkable deviations from historical institutional patterns are analyzed with some care. Again a more detailed analysis would include determining ratios for freshmen, transfers, and graduate or professional students.

5.) $\frac{\text{Full Time Students}}{\text{Part Time Students}}$

The ratio of full time to part time students (5) probably isn't very discriminating in the sense of determining institutional health, but it could lead to a health problem if it shifts dramatically over a short period of time.

The same could be said about the next ratio (6), a measure of student quality. By itself it probably doesn't have more than a descriptive value

6. $$\frac{\text{SAT(ACT) Average of New Students This Year}}{\text{SAT(ACT) Average of New Students Last Year}}$$

but dramatic shifts upward or downward should be analyzed for their impact on the institution. Physicians tend to be concerned about remarkable changes in any sign or function, or characteristic, because the changes are often more indicative of something else than significant for their own sake.

Retention of students may be a bit more directly tied to institutional health and individual institutional changes as well as comparisons with normative data would probably be revealing. There are several ways of measuring retention, and each has its good points and bad points. The purest measure is to follow a given student or class through a complete cycle (7A).

7A. $$\frac{\text{Number of Sophomores Who Entered As Freshmen (Year N)}}{\text{Number of Freshmen Who Entered (Year N)}}$$

Similar ratios would be determined for the Junior and Senior Classes using the total number of freshmen who entered with them as the denominator.

Others have found it more telling to simply determine the ratio of one class to the previous class in the previous year (7B). In doing so, some

7B. $$\frac{\text{Number of Sophomores (Year N)}}{\text{Number of Freshmen (Year N-1)}}$$

consideration is given to the student who enrolls midyear, and to transfer students, and gives a different reading of class size. Some schools lose about one half of their freshmen before the junior year, but pick up a large number of transfer students to make it appear as though the freshmen class had actually grown in numbers over the two year period. This second method, comparing classes rather than individuals, may be more useful [illegible] making enrollment projections, based on a survival technique, than the first method. Perhaps for good health's sake, both methods should be utilized, and of course, retention ratios should be computed for each class. Periodic checks of retention ratios by different student characteristics wouldn't be out of order either.

The number of graduating students in a year compared to the number of students entering two or four years previous is another retention ratio that may indicate a problem which sooner or later could prove troublesome (8).

8.) $$\frac{\text{Number of Graduating Students}}{\text{Number of Students Entering 4 or 2 Years Earlier}}$$

Like most of the ratios illustrated here a low or high ratio of graduating students to students who matriculated as freshmen, transfers or graduate/professional students (an appropriate number of years previous), may not mean good or bad news just as a matter of course, but a routine monitoring of the ratio can help with decisions that may more directly influence an institution's living habits.

Perhaps a more revealing ratio is the number of graduating students to the number of majors offered by an institution (9), or closely related ratios, the

9.) $$\frac{\text{Number of Graduates}}{\text{Number of Majors Offered}}$$

number of students to the number of majors offered (10), and the number of students

10.) $$\frac{\text{Number of Students}}{\text{Number of Majors Offered}}$$

to the number of courses offered (11).

11.) $$\frac{\text{Number of Students}}{\text{Number of Courses Offered}}$$

Course and major proliferation may be the institutional "fat" that must be shed to protect the integrity of the institutional body and measures such as those proposed above may help in assesing how much of the institutional body is "fat."

The institutional body has other factors which relate to weight, and how much "course and major fat" can be carried is dependent on the institution's faculty muscle. (Some might prefer to call the faculty the "life" blood of the institution, but at this point anatomical references are not intended as being precisely analogous propositions.)

While it now appears that more students would be a cure for most institutional ills there was a time ten or fifteen years ago when many thought more students were hazardous to good institutional health and vitality. Those were the same days, of course, when more faculty and programs were prescribed for the labor pains. Now we seem somewhat addicted to the notion that more faculty are good medicine and more than one institution is suffering withdrawal pains as it tries to reduce the number of faculty it has become dependent on.

Faculty Ratios

Clearly one of the most measured vital signs in institutional fiscal examinations, is the student-faculty ratio (12) and it undoubtedly has validity in a "physical" examination too. Perhaps a comparison of FTE students and FTE faculty is the most meaningful, although headcount student and faculty figures can and have been used as well. One always needs to be certain that similar definitions of students and faculty are being used when comparisons of student/faculty ratios between institutions are made. It may make the most sense to use FTE teaching faculty as the denominator, but they may not adequately reflect the health of an institution or program using large numbers of part time faculty, just as an FTE student figure won't give adequate recognition to the problems of large numbers of part time students.

12.) $\frac{\text{FTE Students}}{\text{FTE Faculty}}$

In fact, the ratio of full time to part time faculty (13) is an interesting descriptive measure in itself, as is the similar comparison of FTE Faculty to

13.) $\frac{\text{Full Time Faculty}}{\text{Part Time Faculty}}$

Part Time Faculty (14).

14.) $\frac{\text{FTE Faculty}}{\text{Part Time Faculty}}$

In spite of the overuse and abuse of the student/faculty ratio as a general indicator of "health," it may hold some greater potential when applied to specific programs or degree majors within institutions and in comparison with similar ratios at other institutions. Some programs or majors may be undernourished, others overnourished, but yet go unnoticed using only a total institution student/faculty ratio.

Other vital signs which might measure program vitality and test the "faculty" muscle, are ratios of faculty to majors (15) and faculty to courses (16). FTE faculty figures are used again and with the same cautions previously mentioned.

15.) $\frac{\text{Majors}}{\text{FTE Faculty}}$

16.) $\frac{\text{Courses}}{\text{FTE Faculty}}$

The ratio of faculty to courses (either courses or sections of courses could be used as the numerator) could be more carefully examined by doing a major or departmental breakdown. In this age of credit hour consciousness, there is some reason to suspect that a ratio of faculty to course credit hours approved or produced (17) might prove even more useful.

17.) $\frac{\text{Total Course Credit Hours}}{\text{FTE Faculty}}$

Which numerator to use is in part dependent on whether faculty load is determined by courses or by credit hours taught. Another measure of basically the same "muscle" function although this time under stress is a comparison of FTE faculty to total student course credit hours, (18)(number of students enrolled in a course multiplied by the credit hour weight of the course). Institution-wide, department, school, program or analyses by major should probably be done on

18.) $\frac{\text{Total Student Credit Hours}}{\text{FTE Faculty}}$

a routine basis. An examination of credit hours produced in a given quarter or year compared to credit hours produced in previous quarters or years (19) might also measure "muscle" strength for the department, major, school or institution.

19.) $\frac{\text{Total Student Credit Hours (Year N)}}{\text{Total Student Credit Hours (Year N-1)}}$

An institutional "muscle" test similar to those that measure the flexibility of human muscle could be the ratio of tenured faculty to the faculty (20),

20.) $\frac{\text{Total Tenured Faculty}}{\text{Total Faculty}}$

while another test of faculty "muscle" quality could be the ratio of doctorates to total faculty (21). Neither ratio is likely to give much conclusive evidence to health, but muscle problems can lead to human trauma and obviously faculty problems can cause serious institutional trauma if left unattended.

21.) $\frac{\text{Faculty with Terminal Degrees}}{\text{Total Faculty}}$

Administration and Staff Ratios

Clearly faculty muscle alone doesn't keep the institution alive, and some test of the administrative and staff support (skeletal) systems need to be considered. Several ratios might serve as illustrations of health measures in this area (22,23,24,25).

22.) $\frac{\text{FTE Students}}{\text{FTE Administration}}$

23.) $\frac{\text{FTE Students}}{\text{FTE Staff}}$

24.) $\frac{\text{FTE Faculty}}{\text{FTE Administration}}$

25.) $\frac{\text{FTE Faculty}}{\text{FTE Staff}}$

In these examples where students and faculty are compared to administration and staff, administration includes all professional support personnel (central administration, professional administrative staff, librarians) and staff includes those serving as secretaries, maintenance, and auxiliary personnel.

Facilities Ratios

Purely for illustrative purposes, three ratios utilizing factors related to facilities are proposed and others should be developed and tested. The three that come quickly to mind include (26,27,28):

26.) $$\frac{\text{Dormitory Occupancy}}{\text{Dormitory Capacity}}$$

27.) $$\frac{\text{Total Enrollment}}{\text{No. of Student Instructional Stations}}$$

28.) $$\frac{\text{Total Library Volumes (Year N)}}{\text{Total Library Volumes (Year N-1)}}.$$

Conclusions

The fact that many of these variables and ratios, and others that might have been mentioned, are frequently reviewed by administrators suggests that such measures do have validity in institutional and program evaluation and in administrative decision-making. It seems reasonable to assume that additional weight could be given to resource ratios and similar measures in evaluation and decision-making if comparable data were available for institutions similar in type and characteristics. Obviously, normative data on resource ratios and measures for institutions judged "healthy" would be even more beneficial.

As decision making responsibility for increasingly complex issues and institutions of higher education appears to be shifting to legislatures, unions, and faculty committees not always fully understanding of higher education and institutional "life," research to establish the critical variables, measures and ratios, and to test their validity in diagnostic and prognostic work is an obvious necessity: to lead in that research would be an appropriate response to the shift in decision making responsibility by institutional researchers.

ROOTS: THE DILEMMA OF ADMISSION TO HIGHER EDUCATION FOR NONWHITES IN FLORIDA

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ROOTS: THE DILEMMA OF ADMISSION TO HIGHER EDUCATION FOR NONWHITES IN FLORIDA

INTRODUCTION

One of the most strongly held values in America is that a sound education is the open sesame to purposeful and productive citizenship. But inasmuch as the door has been rather effectively closed to the vast majority of nonwhites,* especially blacks and American Indians, it is important to take at least a cursory look at some of the roots or associational factors inasmuch as their plight simply did not spring full-blown out of nowhere, nor can it be attributed to some so-called inherent deficit. Given the temper of the times and the mood of the people, it was skillfully planned and ingeniously engineered. First, the look will trace some of the long twisted paths which led to the frustration of potentialities, goals and aspirations of nonwhites. Second, it will provide the basis for understanding, aggressive and corrective action on the part of the State and the victims.

The justification for education lies in the belief that it is through training men change and can join and participate fully in societal processes. Therefore, the public school has been mandated the responsibility to prepare people to cope with their various roles as citizens. However, as it applies to nonwhites in Florida, this mandate has been frustrated continuously. According to Abraham and Simmons:

> When the literature treating the problem of education for nonwhites was reviewed, two pertinent attitudes seemed to emerge. The first one is that Florida easily has the grandeur of intentions for an excellent and equitable school system for all of its youths. But except for isolated instances it seems to lack the desire, organization, facilities, and programs needed to achieve the objectives for nonwhites. The second point is that the apparent indifference toward good education for nonwhites is perhaps due to at least three factors: (1) lack of awareness on the part of a great many citizens, teachers, students, parents, and officials of the actual status of the schools for nonwhites; (2) lack of public interest in adequate education for nonwhites; and (3) inadequate support, educational services, and leadership at the state, county, and community levels.[1]

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*According to "Higher Education General Information Survey," No. 23-00-23, there were only 94 full-time undergraduate Indians in SUS in 1976. However, since blacks constituted such a large nonwhite group, their status is used to symbolize that of all nonwhites in Florida.

[1] A. A. Abraham and Gertrude L. Simmons, "The Educational Outlook for Nonwhites in Florida, "The Journal of Negro Education, vol. 35, Fall 1966, p. 379.

Over the years, the above attitudes and values were slowly and surely translated into almost insolvable problems for nonwhites. A sample of the most critical ones will be discussed briefly.[2]

Separate But Equal

Until recently all southerners in public education found themselves in separate but allegedly equal school systems. However, instead of being separate but equal as called for by law until 1954, white and black schools were in fact "separate and unequal" in bizarre ways.

While in slavery blacks received their education in the "clondestine school." For a long time after emancipation, the eduction of blacks was left pretty much to blacks and to the goodwill of northern whites - and a few southerners. Besides, that"watchdog" of educational standards, the Southern Association of Colleges and Schools, was not founded until 1895. Even then it did not take note of the presence of any schools for blacks until about 1928. At that time a group of black educatorss petitioned the Association for help in developing and standardizing educational practices in schools for blacks, as it had done for whites. In 1932, it responded by placing 36 black high schools in the South on an "approved" list since only the fully accredited white schools enjoyed the rights and privileges of official membership.

Several years later black high schools were admitted to full membership in the Association. The vast majority of black schools, however, were unable to meet the regular standards for approval.[3]

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[2] For more details, see: (1) State Department of Education, Education and the Future of Florida (a Report of the Comprehensive Study of Education in Florida), Tallahassee, March 1947. (2) Leedell W. Neyland and John W. Riley, The History of Florida Agricultural and Mechanical University, University of Florida Press, 1963. (3) D. E.Williams, A Brief Review of the Growth and Improvement of Education for Negroes in Florida - 1927-1962, Southern Education Foundation, Inc., Atlanta, 1963. (4) A. A. Abraham, They Came to College, Florida A & M University, 1964. (5) A. A. Abraham and Gertrude L. Simmons, "The Educational Outlook for Nonwhites in Florida," The Journal of Negro Education, vol. 35, Fall 1966, 369-380 pp. op. cit., 369-380.

[3] Southern Association of Colleges and Schools. Black Colleges in the South from Tragedy to Promise (Atlanta, Georgia, 1971), p. 5.

Meanwhile, there was growing doubt about the legality and quality of the unaccredited schools for blacks. Florida, nevertheless, initiated a novel system for state accreditation of those schools not approved by the Southern Association. As a result the letter of the doctrine of separate but equal was met when a school was accredited by either the Association or the State Department of Education. Thus, diplomas from either category of schools were good for admission to the state universities inasmuch as the diploma was the primary screening device then. This was a tricky scheme which kept almost all black children confined to poorly supported and educationally inadequate public schools until the late Fifties.

At the same time some intriguing action was being taken in curriculum development in black schools during the critical decades of the Thirties through the Fifties. It is alleged that there was severe pressure from county and state officials for black schools to develop more relevant - here and now programs for black children. The motives may or may not have been ulterior, but black schools proceeded to eliminate almost all foreign languages, higher forms of English, specialized mathematics, and sciences from their curricula. With these subjects safely vanished from the formal curricula, apparently the schools began placing undue emphasis on low level applied arts, extra-curricular activities, competitive sports, personal and social adjustment. As a matter of fact, there were so few black students taking specialized and advanced subjects in the early Sixties that the State Department of Education did not even bother to include them in a very important survey on this problem by HEW.[4]

In a related study on the provision of critical resources, the speaker concluded, if the state persisted as it had in the past in distributing certain finances for instructional materials in favor of white over black schools that the achievement gap between the two groups, as measured by tests, logically would be widened rather than narrowed in the future.[5] Almost two decades later, Senate Finance and Taxation Chairman, Jack Gordon, proposed redressing this problem by awarding FAMU a bonus of $5.5 million annually. Said he: "I think it is a matter of great moral importance as well as practical benefit to the state to stop treating Florida A & M University as a stepchild and give it the additional financial support it needs to become an even finer institution of higher learning."[6] Then there is another haunting problem.

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[4] Edith S. Greer and Richard M. Harbeck, *What High School Pupils Study*, (U.S. Department of Health, Education and Welfare, Bulletin 1962, No. 10, OE-33025), p. 15.

[5] A. A. Abraham, *They Came to College*, Florida A & M University, April 1964, p. 39 f. (Note: There will be other references to the 1964 volume of this series. They will simply be indicated by specific citations in parentheses immediately following the notation).

Testing

One of the most important assumptions of any kind of test is that all of the subjects have had equal opportunity to acquire the school developed knowledge or skills called for by that test. Since this condition seldom obtains, standardized tests have well known limitations especially with minorities. But to date they have proven to be more useful than other biographical data for assessing the educational status and progress of large groups of students in many places over long periods of time. Their use also readily identifies those who are in greatest need, thus requiring the most help. To serve these purposes, Florida initiated its twelfth grade battery, now extinct, in 1935.

By the time a significant number of the black schools came into the program, in 1948 the white schools were no longer finding diagnostic and prescriptive values in the tests for curricular development. Therefore, at the suggestion of white public school teachers, the University of Florida changed from the lower to the higher form of each of the four achievement tests in the battery - English, social sciences, natural sciences and mathematics.

The shift in emphasis in content and level of difficulty created new problems for nonwhite students. For example, on the English test in use until 1948, the lower level form measured proficiency in mechanics - spelling, capitalization, punctuation, vocabulary, etc. The form for the higher level merely assumed the mastery of mechanics by measuring proficiency in expression - diction, organization, style, interpretation, etc. Similarly distinctive, qualitative differences existed between the forms for the lower and higher levels of each of the other tests in the battery. Then, to further confound the problem for nonwhites, the current tests require even more abstract and complex thought processes than did the higher forms of a few years ago.

The educational lag resulting from the above practice for many years was clear, massive and overwhelming. According to a study by the author, "Deficiency Profiles in Selected Subject Matter Areas," the faculties in the respective areas agreed that the vast majority of the Florida freshmen entering Florida A & M University (FAMU) possessed almost academically fatal deficiences on the lower level of each subject matter area (pp. 48-51).

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[6] Palm Beach Times, PM-27,000 S-18,000, March 1977.

Another change which obviously had severely negative effect on the development of quality education in the black schools occurred at the time they joined the statewide testing program. In a meeting at the University of South Florida December 1, 1971, according to Dr. John McQuitty, director of the original 12th grade battery program, important white and black officials wanted the results reported in separate percentile norms to preclude embarrassing blacks since black students were expected to do poorly on the tests. This decision may have left whites and blacks satisfied and happy. The blacks, however, had lost a golden chance to find out how good or bad their schools were because separate percentile norms have a way of hiding a multitude of developmental and achievement problems. As he was retiring, in moments of reflection, Dr. McQuitty also pointed out that the separate norms probably had done as much harm to the educational development of blacks as any other single act by the State. Although he favored it then, he stated he would oppose such a strategy in the future.

To illustrate, it is thought that the typical white student will make a score on a standardized test which is about one standard deviation higher than the score made by his black matchee. This creates a problem for separate percentile norms inasmuch as the highest score made in each group sets the 99th (or 100th) percentile for each group. Conversely, the lowest score sets the first (or zero) percentile for each group. For example, if the highest raw score made on a test by a white student is 85, that score becomes the 99th (or 100th) percentile. If the highest raw score made by his black matchee is 70, that score too becomes the 99th (or 100th) percentile. On the other end of the scale, if the lowest score made by a white student is 20 and that of a black student is 10, each of these scores becomes the first (or zero) percentile in separate norms.

Then, in the light of the 1954 school integration decision, and, as if anticipating the 1964 Civil Rights Act, in June 1961 the Board of Control (now the Board of Regents) passed a regulation on uniform admission to all state universities in Florida. Common norms (combining scores for white and black examinees) were used for this purpose. When norms were developed, among other things, they revealed that almost all of the more than 100 black high schools, as measured by tests, appeared to be doing less well than almost all of the more than 300 white schools in the program. Howevbr, in Spring 1957, one state educational official had pointed out to this speaker that black schools were doing many good things which standardized tests simply did not measure, although many of their graduates were not qualifying for admission to the universities.

Actually, less than ten percent of the black high school seniors now (ideally, 40 percent should) make a score of 300 or more, out of a possible 495 on the battery. The 300 is the minimum score required for unrestricted admission to any of the universities in the system. Consequently, the vast majority of freshmen at FAMU must enter in the special admission's category.

In 1957 the Test Service Bureau published the first of four preliminary studies dealing with the interaction of freshmen with the level of difficulty of their curriculum at FAMU.[7] Along with copies of the study, the director wrote a cover letter to all black public school principals, all supervisors, county superintendents, State Department of Education and other State officials. The letter pointed out:

> The nature and level of the academic achievement of Florida's freshmen entering FAMU tend to reflect distinctively these glaring educational needs: more systematic and rigorous scholastic work, beginning in the early years and designed specifically to develop school aptitudes; greater respect for and emphasis on acquisition, mastery, and application of factual information; and greater capacity (stamina) for maintaining higher levels of mental activity over longer periods of time.
>
> The aforesaid needs suggest that our students cannot profitably afford to lose a single day or hour of effective schooling if they are to be prepared to face up realistically to the ever-increasing demands of further training and the requirements of the workaday world. This challenge implies an early beginning and a relentless pursuit of these objectives.

But even before the above study, white parents were already concerned with certain aspects of the school achievement of their children. The Board of Regents passed its first "tough" regulations on selective admissions in 1956. White parents asked officials what their children could do better to prepare for meeting the new challenges of tests. They were advised that college bound high school students should be encouraged to take all of the so-called hard subjects they could get: English, languages, social studies, natural sciences, and mathematics. The reason for this advice was that admissions would be based primarily on test scores, which in turn would be based on better than average achievement in the hard subjects in high school.

The advice of the BOR proved to be much more than simple rhetoric in its application to blacks. The author made an analysis of the patterns of high school courses taken by 2,082 Florida freshmen entering FAMU from September 1956 - September 1959, inclusive. It was found that only a small percentage, less than 10 percent, of the sample had taken the course combinations the authors of the respective tests claimed students should have if they hoped to do reasonably well on the battery. Periodic checks of high school transcripts since then, suggest that the vast majority of black youngsters are still not taking the necessary prerequisites for a demanding college curriculum. According to the appropriate officials, about ninety percent of the Florida freshmen entering the University of Florida and Florida State University usually take the precollege curriculum in high school and therefore are well prepared for college.

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[7] A. A. Abraham, They Came to College (Florida A & M University: Aug., 1957), p. 22.

Based on these and many other obviously crippling educational deficiencies, the writer reasoned, "One conclusion was that in the light of their apparently shoddy preparation, the question was not why black students previously had done so poorly on the battery, but how they had managed to do so well on it" (p. 38). Indeed, one of America's eminent anthropologists shared this viewpoint in his address to the American Anthropological Association when he said:

> I am sometimes surprised to hear it stated that if Negroes were given an equal opportunity, their IQ would be the same as the whites. If one looks at the degree of social discrimination against Negroes and their lack of education, and also takes into account the tremendous overlapping between observed IQs of both, one can make an equally good case that, given a comparable chance to that of the white, their IQs might be higher.[8]

What seems, then, to be unique about the development of man is that his growth as much as anything else, depends upon his cultural history rather than the history of his genes. In other words, the limitations of growth readily appears to rest largely upon how a society assists the individual in using and expanding such intellectual potential as he may possess.

The loud criticisms by blacks about the validity and fairness of tests used for admission to the universities have increased in intensity in recent years. As a result, the Advisory Committee for the Twelfth Grade Statewide Battery sensed the opportunity to kill two birds with one stone. In addition to confronting the criticisms of blacks, the committee sought to help the State meet HEW's pressing demands to equalize educational opportunity in public higher education in Florida. It, therefore, requested Educational Testing Service (ETS) of Princeton, New Jersey, to make some revelant revisions in the 1973 edition of the twelfth grade battery.[9] One purpose was to enable blacks to make at least the score of 300 or its equivalents on the SAT or ACT which will be required of them for admission in 1980.

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[8] In Richard A. Goldsby, Race and Races (New York: The Macmillan Company, 1971), p. 122

[9] Floyd T. Christian, Commissioner of Education, Department of Education, State of Florida, "Plans for Equalizing Educational opportunity in Public Higher Education in Florida," Vol. 1, February, 1974, p. 24, (mimeographed).

Among other things, ETS proceeded to "meet" the mandate for revision by lowering the difficulty level of the battery. The strategy resulted in including more easy items in the tests. But since access to the universities for more nonwhites was the issue, it is quite obvious that this "innovation" would not alleviate the problem for them. If white seniors had been answering more of the harder items before 1973, surely they would continue to answer relatively more or just as many of the easier items than nonwhite seniors, tending to freeze them in the same relative positions they occupied before the easier items were added to the battery.

This matter was called to the attention of a staff member of the Board of Regents (BOR). He admitted that the strategy would not significantly increase the number of nonwhites admitted to the universities.. He did, however, think this would enhance their self-image and confidence because they would have greater absolute success in answering more items in the battery. But, unfortunately, for them, admission to the universities requires relative success on the battery since the norms are reported in percentiles.

It may not have been obvious before. But now, at least two very important ideas should be crystal clear to all. First, the educational system to which nonwhites in Florida have been subjected involuntarily through the years has left them with multiple disadvantages as they seek to improve their coping status. Second, they are, indeed, entitled to and deserve special assistance and compensatory opportunities in over coming their long years of unwarranted deprivation. What action oriented suggestions do these results imply, then, for the State and for nonwhites:

Change Agent I: A Point of View

The just community: The primary requisite for greater access to higher education, and, therefore, productive and purposeful citizenship, for nonwhites in Florida is for the State, in principle and practice, to live out the law and spirit of the just community.[10] The just community removes the impediments to equal opportunity for all through positive action. Instead of blaming the victims for their predicament, it aggressively redresses historical injustices of a social, economic, educational, psychological and political nature perpetrated against any segment of its citizens. The just community is even bold enough creatively to reconcile the challenge of "inverse discrimination" with the ideals of equal opportunity and the open society. In institutions of higher learning, it takes these actions without undermining excellence or lowering the quality of education

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[10] See special edition, "Education in a Just Community." The College Board Review, No. 102, Winter 1976-77, 32 pp.

The state of Kansas has demonstrated beyond doubt that quality and excellence are not necessarily the antithesis of diversity and opportunity. Several years ago, it experimented with an open door policy for higher education. If students making relatively low scores on standardized tests had been excluded during the five years of the study at the University, the loss to the state and the nation would have been 202 teachers, 176 engineers, 22 journalists, 31 lawyers, 25 medical doctors, 43 pharmacists and 402 graduates of the College of Liberal Arts and Sciences.11

Change Agent II - Admissions

Regular Admission: It is estimated that there are about 80,000 high school seniors in Florida this year. Of this number, about 68,000 are white. Approximately 27,000 or 40 percent of these students will be eligible for unrestricted admission to the universities. Roughly 40,800 or 60 percent of them will fail to qualify for regular admission to the State University System; therefore, must resort to other options for entering it. Of approximately 12,000 black high school seniors, about 720 or six percent will qualify for regular admission. The remaining 11,280 or 94 percent must take other routes to get into the system

This option should remain as it is, without reservation for those students who make either 800 on the SAT, 19 on the ACT, or 300 on the 12th grade battery.

Articulation Agreement: The Articulation Agreement has also been a tool by which students may enter the State University System. Those who qualify for admission as freshmen may transfer to the universities at any time before completing their general education in the community colleges. All other transfer applicants must possess the AA degree, or meet the conditions of the self selection rule below, for admission to the upper division of the universities. Previously the AA degree subjects have performed rather satisfactorily in the universities.12 However, based on certain facts, another principle of admission is being here suggested.

Self-Selection: To date, without meeting either of the above requirements, it has been possible for the students to enter the universities under the 10 percent exception rule. The results in Schedule II, page 277

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[11] George R. Smith, "Who Should Be Eliminated?" *The Coming Crisis in Selection of Students for College Entrance*, American Education Research Association, 1969, p. 36, (reprint)

[12] *Articulation*, State Department of Education, Division of Community Colleges, Tallahassee, April 1975, 54 pp.

suggest that a closer matchup between the individual potentialities and needs on the one hand and the university programs and services on the other hand can be made if an element of self-selection is substituted for the 10 percent exception rule in the admission's formula for persons below a certain range on the tests. Since as many as 68 percent of these "not so talented" students make at least a "C" average in the universities represented, obviously a large percentage of them clearly overthrow the predictive value of tests when they succeed at the level indicated.

To further confound the current admission policies, most would agree that students scoring at or above 450 on the 12th grade battery should be considered as talented. Yet, according to the results in Schedule I, page 277 10 percent of these subjects usually fails to make at least a "C" average in the four universities listed, ranging from a low of six at FSU to a high 14 percent at UF.

To a great extent, the above results focus on the validity and fairness of the tests used in admission. Actually, for a correlation between test scores and teacher grades of roughly .60, test scores account for only about 40 percent of what goes into grades. Of course, the range of correlation between test scores and grades for blacks in Florida seems to be about the same as it is for other groups in Florida and elsewhere. But, additionally, it also seems that the predictive value of a correlation for blacks is less valid for the individual than it appears to be for individual whites. This probably is the result of the helter-skelter, haphazard manner in which blacks have been forced to acquire the critical cognitive styles needed for success in the graded school system, as now structured. Test makers must compensate for this weakness in their instruments by adding meaningful diagnostic and prescriptive dimensions, more closely calibrated to the peculiar needs of more students.

Although many blacks fail to meet the unrestricted entrance requirements to the universities, some of them feel that community colleges stigmatize them. Yet others feel that the climate of tolerance and acceptance in the universities is more conducive to them than it is in the community colleges. The latter argument probably has some validity. It is, therefore, suggested that the tool of self-selection be extended to them with the understanding that they must meet certain minimum standards on a competency based general education examination as a condition for admission to the upper division of the universities. This option would also be extended to those presenting the AS degree from community colleges.

Curricular design for the self-selection mechanism would emphasize certain critical differential features with reference to academic support services. In addition to research, support services in the universities would be largely developmental, generative and expensive in nature. In the community colleges, they would be more clinical in nature - diagnostic, remedial and prescriptive.

The thesis of self-selection is free play of choice for meeting needs on the one hand and opportunity for self-fulfillment on the other hand. It enables one to decide upon and select for himself that institution in which he is likely to: (1) enjoy the greatest degree of personal satisfaction, (2) group acceptance and (3) competitive success in the educational process. Over the years, this thesis has reflected fundamental human appetites and aversions, therefore, seems to be rather reliable and valid in most people interactional situations - for instance "like things attract", and "unlike things repel," unless controlled or influenced unduly by external forces.

The facilatator for this thesis would be a "matching manual." The manual would indicate: (1) who goes where, (2) what it is like there and (3) what is required there for optimum success. For example, it would provide detailed descriptions of university characteristics: institutional philosophy, campus climate, academic standards, scholastic backgrounds of students, socioeconomic status, value orientation of students, etc., all in relation to academic achievement of students in each university. These results may be made even more effective in presenting them by: (1) course level, (2) lower division, (3) upper division, (4) department, (5) school and (6) university, etc.

Change Agent III: Impaction on Test Development*

The dilemma of admission presents an additional challenge to minorities. To the extent they hold that standardized tests are not valid and discriminate against them as people, as a long-range strategy, they must provide more leadership in defining the criteria of success and prediction. They will, then, have to develop tests to accomplish these goals more satisfactorily for them in school, college or the workaday world than do current tests. This is not likely to be easy or done quickly. But it is what must be done inasmuch as minorities cannot depend on others to do these things for them.

Change Agent IV: Mastering Developmental Tasks

Man lives in a physical-cultural environment which makes many demands of him for coping with his problems of continuing adjustment. One of these demands in the sphere of education is mastering the developmental tasks. "A developmental task is a task which arises at or about a certain period in the life of the individual, successful achievement of which leads to his happiness and to success with later tasks, while failure leads to unhappiness in the individual, disapproval by the society, and difficulty with later tasks."[13]

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[13] Robert J. Havighurst, Human Development and Education, David McKay Company, Inc., New York, 1961, p. 2.

*Schedule V, Biases in Conventional Tests, P. 281

Just a casual glance at Schedules 3 & 4* suggests that the achievement of blacks in Florida has been characteristized by either (1) a delayed developmental pattern (2) an impaired developmental pattern, (3) or both. Despite this fact, though the results in these schedules indicate that better prepared blacks are beginning slowly to cycle through the public schools. However, it is obvious that most of them will not be able to make the minimum score of 300 by 1980 for unrestricted admission to the universities demanded by the BOR and HEW. If the performance of white students is to serve as the model, based on the percentage of improvement that has been made since 1962, the simple arithmetic of the problem is that it will be around 1995 - and that is a very short while, considering - before the spread of scores for nonwhites approximates that of whites in the State, after which special admission for minorities will cease to be a problem, as we know it today. Thus, the immediate requirement of the BOR and HEW is not only impossible, it is downright unreasonable and irrational.

It is crystal clear, then, that a large percentage of minority youngsters will need many, many years of serious school work to meet certain educational demands. And that brings me to the last action oriented suggestion.

Change Agent V: Early Decision-Making

There is no one way for those going to the universities to prepare for meeting the requirements for admission. Theoretically, this can be done through any of the high school curricula - even through non-school experiences. The evidence is, however, that the quickest and surest way to prepare for the admission's battery is to take the precollege program inasmuch as the tests presuppose those experiences or their equivalencies. The main effect of not taking these experiences has been that most blacks in Florida have not been able to qualify for unrestricted admission to the universities. Yet failure to take the precollege curriculum is not a new phenomenon for black youngsters. However, since 1962, the impact has been accentuated by the use of common norms on the test battery and uniform admission to the universities.

A noted black psychiatrist, recently related his conversation with a black counselor, who told him, "Studying for them [blacks] is 'uncool,' and they don't let anybody else study." He also reported on one of his own clients. "One 14-year-old youngster who was receiving psychiatric treatment confirmed the problem when he explained that his buddies made him feel like a turncoat because he was studying college algebra with all the 'whities' while they were studying applied math - a math for low achievers."[14] This sentiment appears to be much too universal among black youngsters, provoking Ebony magazine to editorialize, "We notice increasingly an attitude on the part of many blacks that at once disappoints and gives cause for concern. That attitude is one bordering on scorn for learning, contempt for achievement and disdain for the pursuit of excellence."15.

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[14] James P. Comer, "Are We Failing Our Children?" Ebony, Vol. XXIX, No. 10, August 1974, p. 55.

* p. 278 and 280

In addition to limiting their preparation for college, the above failure impacts negatively on the long-range socio-economic, educational and professional status of blacks. Thus, their presence and visibility are inordinately restricted as journalists, doctors, dentists, engineers, lawyers, economists, bankers, scientists, mathematicians, writers, aviators, contractors, etc.

Forced by society to play the role of hewers of wood, drawers of water and tillers of the soil, the historical outcomes for minorities were inevitable. But the laws and customs producing these results have changed and are changing. Therefore, blacks must consider the need to change and update their coping skills. Among other things, they must thoroughly understand how their status in Florida was shaped; otherwise, they are likely to make many of the same mistakes of the past.

One imperative for blacks is to increase their knowledge and appreciation for the broad range of educational and occupational opportunities now opening to them. They must engage in much earlier decision-making experiences leading to critical short-and long-range goals since long-range goals are limited by short-range plans. Such a model is characterized by the idea, ". . . a rational process of educational planning begins early, proceeds from the general to the specific, assimilates new information about self and educational options as it becomes available and relevant, provides for continuous revision in the light of such new information, and seeks to preserve the availability of all options for as long as they may be needed as alternatives."16

Incorporating constructive values into the decision-making mechanism is of overriding importance. Heretofore, black youngsters going to college have been encouraged and rewarded for spending entirely too much of their school time developing excellence in such activities as football, basketball, baseball, track, marching bands, choirs, shops, homemaking and typing. And to the credit of the schools, by most reasonable standards, they thoroughly achieved their objectives. So, black youngsters do possess solid standards

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[15] "The Pursuit of Excellence," Ebony, Vol. XXIX, No. 9, July 1974, p. 196

[16] Douglas Dillenbeck in Gordon P. Miller and H. B. Gelatt, "Deciding: The Decision-Making Program," College Board Review, No. 82, (Winter 1971-72) p. D-2

of excellence. The problem is, however, that these values are limited to activities which tend to restrict unduly their access to higher education, and, eventually, honored professions and eminence. The challenge for them now is to acquire a new set of values for excellence in other disciplines such as chemistry, physics, biology, languages,etc. Upon acquiring the values, they must pursue them with the degree of single-mindness, commitment, imagination and vigor they have pursued their previous goals.

The Summary and the Challenge

To summarize, one of our purposes was to document and present many of the critical causes of the admission's dilemma of nonwhites in higher education in Florida, providing the basis for understanding, aggressive and corrective action on the part of the State and the victims. The second purpose was - through the perspective of a black who has worked with the products of the public schools in Florida for many years - to suggest some reasonable solutions to the problem. This has been done by discussing such issues as: (1) the doctrine of separate but equal, (2) testing and (3) five change agents: a, a point of view; b, admissions; c, impaction on test development; d, mastering the developmental tasks; and e, early decision-making.

Students, faculty and career personnel have been made extremely nervous and skeptical for several years now about the status of the University - autonomy, survival and identify - due to the many unacceptable guidelines submitted to HEW by the BOR on FAMU's role and scope in the State University System. HEW has said that FAMU may not be closed. It may not be merged. It may not be downgraded. It must be upgraded to the level of the other universities in the system. Figuratively, proposals requiring reams of paper have been submitted to HEW to date. Yet there is still a logjam over critical issues. The working conferences I have witnessed for this purpose appeared to be typified by many too many secrets, hidden agendas and too much antagonism for resolving the problem in good faith. Using the kind of information presented in this paper, the challenge, then, is for FAMU, the BOR and HEW to come together in an honest, open and permissive conference as advocates of enlarged opportunities for all of Florida's citizens. For, even though the just community cannot guarantee success in higher education, it certainly can guarantee access to higher education under reasonable condition - rectifying, in a small way, the manner in which fickle Fate has spun her web among nonwhites.

FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY
Tallahassee, Florida

Test Service Bureau [illegible] Abraham, Director

Schedule I

The chances in 100 of earning less than a C average in Four State Universities in Florida when students make 450 or more on the 12th grade battery

Universities	Percent
Florida State University	6
Florida Technological University	13
University of Florida	14
University of South Florida	8
Mean	[illegible]

Schedule II

The chances in 100 of earning at least a C average in Four State Universities in Florida when students make less than 250 on the 12th grade battery

Universities	Percent
Florida State University	49
Florida Technological University	73
University of Florida	87
University of South Florida	52
Mean	65

Source: Percentile Ranks, Florida State-Wide Twelfth Grade Testing Program, University of Florida Fall 1975, 362 pp.

Schedule III

Excerpts

Jacob G. Beard, Kathleen Burk and Ron Nugster, "Relative Achievement Levels of White and Black Children," paper presented at the Annual Meeting of the American Educational Research Association," Washington, D. C., April 1975, 18 pp.

The purpose of the study was to determine whether the interval separating the academic achievement level of black and white students in the State of Florida decreased over the time span, 1961 - 1974. During that time period, Florida's school system, as well as that of many other states, changed from a racially segregated system to a desegregated one.

Some Results

The table below presents the means, standard deviations, and differences between black and white means expressed in white standard deviation units for each test. The lengths of the intervals separating the means of blacks and whites in terms of white standard deviation units were smaller in 1974 than in 1961 for each of the four types of tests. The greatest increase in the relative achievement of blacks was in math computation, in which the difference between means in 1961 was approximately two white standard deviations and in 1974 was approximately one standard deviation. The smallest increase in the achievement of blacks relative to whites was in vocabulary. The decrease in the difference between vocabulary means was less than one-half standard deviation.

Means, Standard Deviations, Differences between Means in White Standard Deviations

Test	Mean		Standard Deviation		Differences
	White	Black	White	Black	between means
Reading					
1961	30.92	17.82	7.43	7.94	1.80
1974	13.78	9.18	3.91	3.92	1.18
Vocabulary					
1961	35.31	16.11	11.80	8.17	1.63
1974	25.05	14.41	8.62	6.82	1.23
Computation					
1961	33.72	18.93	7.44	8.44	1.99
1974	31.89	21.31	10.82	9.19	.98
Prob. Solving					
1961	33.14	19.10	8.08	7.40	1.74
1974	17.84	10.19	6.68	4.90	1.15

The mean item difficulty values for blacks and whites on each test and the differences between black and white difficulty values (were derived, but the table is not included). With the exception of vocabulary, the mean P-values were smaller for whites in 1974 than in 1961. This could have occurred either because the tests administered in 1974 were more difficult or because the achievement of whites has decreased since 1961. While the 1974 tests seemed to be more difficult for whites, the average performance of blacks increased from 1961 to 1974 on all tests except Mathematics Problem-Solving. The reading and math computation tests were slightly more difficult for whites in 1974 than in 1961, but less difficult for blacks in 1974. The vocabulary test was easier for both groups in 1974, and the problem solving test was more difficult for both groups in 1974. The differences between the mean difficulty levels for blacks and whites were smaller in 1974 than in 1961 for all tests.

FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY
Tallahassee, Florida
May 1976

Test Service Bureau — A. A. Abraham, Director

The Decile Performance of Black High School Seniors on the Battery in the Florida Statewide Twelfth Grade Testing Program in 1962 (the first time common norms were used) and in Fall 1975 (the last adminiatration)

Deciles	Scores	1962		1975	
		Number	Percent	Number	Percent
X	450 - 499	2	0.03	33	0.27
IX	400 - 449	14	0.21	85	0.70
VIII	350 - 399	42	0.63	198	1.65
VII	300 - 349	81	1.21	261	2.18
VI	250 - 299	108	1.62	507	4.22
V	200 - 249	228	3.42	786	6.55
IV	150 - 199	346	5.19	1,249	10.41
III	100 - 149	703	10.53	2,052	17.10
II	50 - 99	1,308	19.60	3,605	30.06
I	00 - 49	3,841	57.56	3,221	26.86
Total		6,673	100.00	11,997	100.00

Summary

1. Percent scoring at or above the 60th percentile in 1962 - 2.08
2. Percent scoring at or above the 60th percentile in 1975 - 4.80
3. Percent scoring at or below the 20th percentile in 1962 - 77.26
4. Percent scoring at or below the 20th percentile in 1975 - 57.92

Schedule V

FLORIDA AGRICULTURAL AND MECHANICAL UNIVERSITY
Tallahassee, Florida
1968

Biases in Conventional Tests

A test is thought to be biased if it leans always or usually toward a particular system of belief, attitude, or cognition. Therefore, all standardized intelligence, aptitude and achievement tests appear to possess many biases. The first six biases below were pointed up in a study of the 12th grade battery in Florida by A. A. Abraham, They Came to College, Florida A & M University, 1964, 57 pp. The other biases were drawn from the general testing, psychological and sociological literature. The biases work in favor of the groups to the left and against those to the right in the "T" model

For	Against
1. Urban	1. Rural
2. Large schools	2. Small schools
3. Accredited schools*	3. Unaccredited schools
4. Wealthy counties	4. Poor counties
5. Non-native Floridians	5. Native Floridians**
6. White	6. Black
7. North	7. South
8. Professional families' children	8. Skilled labor families' children
9. College preparatory curriculum	9. General or vocational educational curriculum
10. Girls (verbal)	10. Boys (verbal)
11. Boys (quantitative)	11. Girls (quantitative)
12. Northern blacks	12. Southern blacks
13. Northern whites	13. Southern whites
14. Northern blacks (natives)	14. Southern whites (natives)
15. College prone families	15. Non-college prone families
16. Those high in verbal aptitude	16. Those low in verbal aptitude
17. Children of university faculty families	17. Children of non-university faculty families
18. WASP'S	18. Non-WASP'S
19. Etc.	19. Etc.

*By the Southern Association of Colleges and Schools

**This is probably becoming less true each year now.

TO CLEP OR NOT TO CLEP
AN ANALYSIS OF THE VALIDITY OF THE COLLEGE LEVEL EXAMINATION PROGRAM (CLEP)

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Presented at
Tenth Florida Statewide Conference
on Institutional Research June, 1977

To CLEP or not to CLEP

An Analysis of the Validity of the College Level Examination Program (CLEP)

Denise Strenglein
University of South Florida

The topic of this conference is the shift in decision making: Institutional research response. In 1973 the Florida legislature shifted the decision for granting credit for up to 45 hours in lower level general education courses from institutions in the State University System to the College Level Examination Program. Being a typical institutional researcher, four years later I responded by doing some summative research into the validity of CLEP.

Any discussion of test validity revolves around the intended uses of the test. Does the test measure what needs to be measured? What inferences can be drawn from the test scores? So--what are the intended uses of CLEP?

Intended Function of CLEP

The College Level Examination Program (CLEP) "is a nation-wide system of credit-by-examination offering people of all ages and backgrounds an opportunity to obtain recognition for college level achievement regardless of how the knowledge is obtained" (CLEP, 1973, p. 3). The program was established in 1965 by the College Entrance Examination Board (CEEB). Casserly (1973) in a CEEB report states that CLEP was originally designed for non traditional students, that is, students who did not proceed directly from high school to college. Many of the tests used in CLEP, however, were originally designed by Educational Testing Service (ETS) before CLEP was initiated. The original intention of ETS was to provide a comprehensive college testing program to measure lower division achievement for the purpose of transition to upper division and for curriculum evaluation as well as for granting credit for non traditional studies (Goolsby, 1966). Whatever the motivation, the purpose of the tests is to measure lower division achievement in general studies and in selected subject matter areas.

Some of the suggested uses of the CLEP tests are: assessment of the achievement for credit-by-examination; demonstration that an individual possesses the equivalent of college learning in order to qualify for jobs or meet licensing requirements; evaluation of achievement in external degree programs; an aid in academic counseling and advanced placement.

Description of CLEP Tests

The CLEP tests are divided into two groups: General Examinations and Subject Examinations.

The General Examinations

The General Examinations measure achievement in English Composition, Humanities, Mathematics, Natural Science, and Social Science-History. These test material usually covered in the first two years of college and often referred to as general or liberal education requirements. The tests are not intended to parallel material offered in any specific course. The attempt is to sample common elements of many general education courses.

Each of the five tests is a 60 minute, speeded, multiple choice objective test containing from 80 to 100 questions. Essay questions are also available for English. Four of the tests are subdivided; Humanities into Fine Arts and Literature; Mathematics into Skills and Content; Natural Science into Biology and Physics; and Social Science-History into Social Sciences and History. Except in the last test there is relatively little or no overlap of test questions.

Complete test descriptions and sample questions are available in the publication CLEP General and Subject Examinations: Descriptions and Sample Questions (CLEP, 1976).

A copy of the pages describing the English General Exam is attached as appendix A.

Subject Examinations

"The subject matter examinations measure achievement in specific college courses...(They) stress concepts, principles, relationships and applications of course material and are not based on particular syllabus" (CLEP, 1973, p. 4).

The subject exams are objective multiple choice tests which take 90 minutes. Most include an optional 90 minute essay section.

A copy of the description of the Education Tests and Measurement exam is included as Appendix B (CLEP, 1976).

A complete list of CLEP Subjects examinations is given in Appendix C.

Validity

The appropriate forms of validity to be considered in evaluating CLEP are, first, content validity, then concurrent validity for its uses in giving course credit and predictive validity for its use in academic counselling.

Content Validity

According to the APA standards "An investigation of content validity requires that the test developer or test user specify his objectives and carefully define the performance domain in light of those objectives" (APA, 1974, p.28). It is apparent from the description of the development of the CLEP tests that an attempt was made to meet the above criteria. Panels of experts examined curricula and built questions to conform to a predetermined content domain and set of skills. Item analyses were performed which examined difficulty level of questions and degree of correlation with the total score (Sharon, 1971; CLEP, 1973).

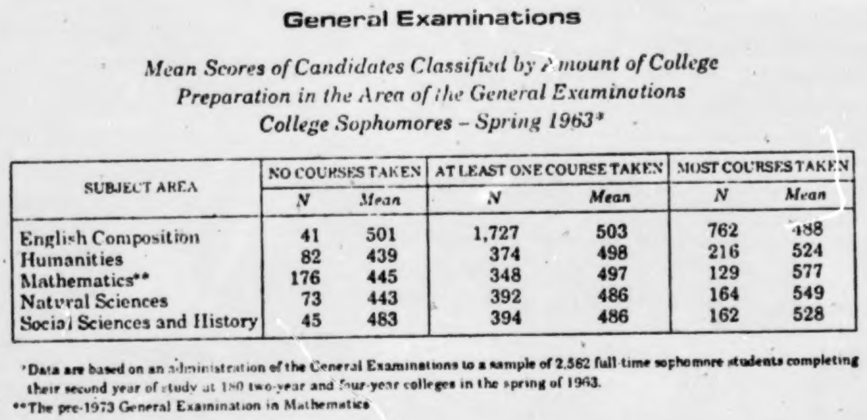
Caldwell (1973) examined General Exam content. He had subject matter specialists classify content into high school or college level course material. He reports percentages of high school content ranging from 13% in Humanities to 88% in mathematics. He does not indicate whether the high school content judgments were based on nationwide course content or on local information, nor does he tell whether or not the specialists had any reason to disapprove of the CLEP program when they were making their judgments.

Coad (1973) raises the following question concerning the English General Exam: "how can anyone ... devise an objective exam that is universally equivalent to a course in which almost anything can happen and obviously does" (p.4). He goes on to establish the rule that if you must accept CLEP at all, insist on the Subject Exam. He offers no evidence for either of these statements nor does he explain why the Subject Exam can be used with more confidence than the General Exam.

The truth concerning content validity of the exams probably lies somewhere between CEEB's glowing confidence and Caldwell's and Coad's pessimistic pronouncements. The arguments against the content validity revolve around representativeness and level of material. Apparently the tests do measure at least some of the stated content.

Concurrent Validity

Concurrent validity can be measured by correlating scores on the instrument with some other criteria related to the body of knowledge in question. The critical element is the selection of the criteria (APA, 1974).



General Examinations

*Mean Scores of Candidates Classified by Amount of College Preparation in the Area of the General Examinations College Sophomores – Spring 1963**

SUBJECT AREA	NO COURSES TAKEN		AT LEAST ONE COURSE TAKEN		MOST COURSES TAKEN	
	N	*Mean*	*N*	*Mean*	*N*	*Mean*
English Composition	41	501	1,727	503	762	488
Humanities	82	439	374	498	216	524
Mathematics**	176	445	348	497	129	577
Natural Sciences	73	443	392	486	164	549
Social Sciences and History	45	483	394	486	162	528

*Data are based on an administration of the General Examinations to a sample of 2,562 full-time sophomore students completing their second year of study at 180 two-year and four-year colleges in the spring of 1963.

**The pre-1973 General Examination in Mathematics

Figure 1

From CLEP Scores: Interpretation and Use, Copyright ©1973, 1976 by College Entrance Examination Board. Reprinted by permission.

As Figure 1 shows, the mean CLEP general examination scores were calculated for different groups based on number of courses taken in the subject matter area. Except in the field of English composition the mean scores obtained on the CLEP tests increase with the number of courses taken (CLEP, 1973; Sharon, 1971). In the CLEP manual it is speculated that the reversal in expected ranking of the English composition scores may be a result of the fact that the worse students are required to take the most composition courses while better students are excused from them (CLEP, 1973). At Washington University CLEP scores on the Natural Science exam were more closely related to number of courses taken than were scores in Social Science-History and Humanities. Beanblossom (1969) speculates that while there are many opportunities to acquire knowledge in the latter areas through independent reading the Natural Science content is generally limited to formal educational settings. This makes the number of courses taken a trifle suspect as a criterion.

In a number of studies it was found that, with some exceptions, the highest CLEP scores were obtained by students intending to major in the field (CLEP, 1973; Sharon, 1971; Beanblossom, 1969; Cashin, 1974).

Checkets and Christiansen (1974) found that CLEP General English Objective test scores did correlate with writing skill as measured by an essay test and that the CLEP essay test did not add significantly to explaining variance in Freshman English grades. They concluded that the CLEP Objective test could justifiably be used to give credit for freshman English.

A number of studies compared CLEP scores to Grade point averages (GPA's), both course related and overall, or to course quality points (CLEP, 1973; Sharon, 1971; Losak & Lin, 1973; Cashin, 1974). Moderate positive correlations were found. Goolsby (1970) questions the use of grade point average as a criterion of achievement. However, GPA, with all its weaknesses, is generally accepted as the major evidence of academic achievement. Sharon (1971) of CEEB concludes that the modestly positive but far from perfect correlation between CLEP scores and GPA supports the use of CLEP for granting course credit. Sharon (1971) argues that while the correlations between CLEP and GPA do not prove concurrent validity, the lack of such correlation would disprove it.

The CLEP manual does not give any correlation data between CLEP General Exam scores and these criteria. A number of tables show means and standard deviations and conclusions are drawn from the direction of mean score variability. This is not in accordance with APA standard E. 8 which recommends that statistical analysis be reported with enough information so the user can determine how much confidence can be placed in individual scores. E.8.1 states that it is essential to report one or more correlations of a familiar type (APA, 1974, p.40). CEEB does, however, encourage users to conduct their own analysis and provides free copies of tests for that purpose.

When the General Exam in Mathematics was redesigned in 1973 CEEB did conduct a new study to establish norms, reliability, and validity as recommended by APA (1974). The new data reported for the Math test are equivalent in quality to the old.

Concurrent validity for subject matter tests is demonstrated in the manual by correlating the CLEP scores with final grades in subject courses. This criterion is probably the best one available although there is some disagreement as to the validity of grades.

Subject Examinations

Correlations between Scaled Scores and Final Course Grades

TEST	MEAN SCALED SCORE BY FINAL GRADE					PERCENTAGE OF STUDENTS EARNING GRADE					CORRELATIONS BETWEEN SCALED SCORES AND FINAL COURSE GRADES
	A	B	C	D	E	A	B	C	D	E	
Accounting, Introductory	59	52	47	43	40	22%	28%	30%	15%	5%	.58
Afro-American History	57	55	49	44	40	24%	41%	29%	5%	1%	.44
American Education, History of	57	51	46	42	—	9%	31%	11%	1%	—	.37
American Government	58	55	47	44	37	7%	36%	42%	11%	3%	.50
American History	59	53	46	43	40	13%	32%	37%	13%	5%	.54
American Literature	57	50	46	41*	—	35%	33%	24%	8%	—	.48
Biology	61	53	49	47	43	10%	32%	33%	13%	6%	.48
Business Law, Introductory	63	57	51	44	38	9%	30%	37%	20%	4%	.67
Business Management, Introduction to	61	52	47	42	38	9%	32%	45%	11%	3%	.52
Calculus with Analytic Geometry	57	51	47	44	41	27%	29%	29%	10%	5%	.45
Chemistry, General	65	53	48	46	44	9%	23%	38%	19%	11%	.52
College Algebra	62	55	50	45	42	9%	18%	28%	16%	7%	.59
College Algebra-Trigonometry	60	53	49	45	40	10%	21%	33%	20%	11%	.59
College Composition	58	53	47	44	42	15%	37%	37%	8%	4%	.43
College French											
Second Semester	50	45	41	40	36	34%	32%	22%	8%	4%	.47
Fourth Semester	63	57	53	48	42	26%	38%	22%	11%	3%	.48
College German											
Second Semester	48	44	40	37	37	40%	36%	19%	4%	1%	.47
Fourth Semester	61	54	48	38	—	41%	39%	19%	1%	—	.59
College Spanish											
Second Semester	50	45	41	39	33	33%	30%	24%	6%	1%	.47
Fourth Semester	60	54	50	47	42	37%	35%	21%	6%	1%	.52
Computers and Data Processing	57	50	46	44	39	14%	27%	32%	10%	2%	.49
Computer Programming, Elementary-Fortran IV	58	53	48	43	40	23%	30%	27%	11%	4%	.54
Educational Psychology	59	51	47	44	40	15%	36%	33%	6%	2%	.46
English Literature	60	50	46	45	40	15%	35%	37%	11%	2%	.47
Freshman English	55	51	47	43	43	20%	30%	37%	6%	1%	.36
Human Growth and Development	56	52	47	41	41	18%	36%	37%	6%	1%	.43
Literature, Analysis and Interpretation of	61	55	49	41	40	7%	28%	48%	15%	2%	.54
Macroeconomics, Introductory	63	55	48	44	38	13%	27%	41%	14%	5%	.65
Marketing, Introductory	61	53	48	43	36	8%	27%	38%	10%	2%	.51
Medical Technology											
Clinical Chemistry	57	51	47	41	—	19%	42%	33%	6%	—	.43
Hematology	56	51	46	40	—	22%	49%	24%	5%	—	.41
Immunohematology	56	50	47	42	—	23%	45%	26%	6%	—	.39
Microbiology	59	53	48	44	—	17%	35%	38%	10%	—	.53
Microeconomics, Introductory	61	54	47	41	37	14%	27%	43%	12%	4%	.61
Micro- and Macroeconomics, Introductory	61	54	47	42	40	17%	31%	38%	12%	1%	.61
Money and Banking	58	54	48	43	42	14%	20%	42%	14%	5%	.53
Nursing											
Anatomy, Physiology, Microbiology	55	51	44	41	—	28%	40%	23%	3%	—	.45
Behavioral Sciences for Nurses	55	50	45	39	—	23%	57%	18%	2%	—	.40
Fundamentals of Nursing	57	51	44	41	—	14%	59%	27%	1%	—	.42
Medical-Surgical Nursing	57	53	46	46*	—	7%	57%	34%	2%	1%	.34
Psychology, General	65	55	47	41	35	10%	24%	55%	8%	2%	.66
Sociology, Introductory	57	52	47	41	38	19%	30%	33%	9%	2%	.50
Statistics	60	53	49	44	39	19%	29%	35%	14%	3%	.54
Tests and Measurements	64	52	45	42	42	14%	33%	38%	12%	3%	.60
Trigonometry	62	55	49	44	40	12%	20%	29%	10%	7%	.66
Western Civilization	63	56	50	42	42	7%	26%	40%	24%	3%	.60

*Only a few students received D and E grades. This score represents the average score of D and E students combined.

Figure 2

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Figure 2 shows descriptive statistics comparing CLEP scores to final grades. The correlations range from .39 to .67 with 64% of the correlations greater than .50. Since the data are presented test by test, users can assess the validity for the test which may interest them.

Predictive Validity

Evidence that CLEP tests can be used for academic counselling is almost all negative. There is a low correlation between CLEP scores and upper division GPA (Sharon, 1971). The CLEP manual (1973) indicates that the intercorrelations among general exams, and on subscores of the general exams, are sufficiently lower than the reliability coefficients to indicate that the tests measure different constructs and hence can be used to discriminate ability from subject area to subject area. However Goolsby (1966, 1970) and Beanblossom (1969) both state that the intercorrelations are too high for the test results to be used in counselling. Goolsby (1970) seems to indicate that the low predictive validity was one of the contributing factors in the transformation of the program from its original conception as a Comprehensive College Testing program with application as entrance criteria to upper division to its current emphasis under CLEP as a credit-by-examination progives credit in freshman English at the 32nd percentile on the English general exam and allows students to waive freshman English with scores between the 14th and 32nd percentile (Checketts and Christensen, 1974). These cutoffs were based on comparison of CLEP test scores with course grades.

Acceleration

One of the benefits or disadvantages, depending on your point of view, of receiving credit-by-examination is the ability to graduate earlier. Caldwell (1976) and Legg (1976) both found that while some CLEP students did tend to graduate somewhat sooner than students in non-CLEP control groups, an insignificant number of students was involved. Both found that in general only 25% of the students they followed graduated within what is usually considered to be normal time, i.e., 4 years. In that group CLEP students graduating early outnumbered non CLEP counterparts. These studies both mention that one of the main differences between CLEP and non CLEP students is level of motivation. They state that the highly motivated students might have graduated early even without CLEP credit. This impression is supported by a statistical analysis by Enger and Whitney (1974) at University of Iowa. When other factors of ability and achievement were held constant there was no significant difference in rate of graduation. At Iowa they found the CLEP students instead of leaving took more credits in advanced work. This finding was supported at the University of Florida (Legg, 1976).

CLEP and Adult Vocational Education

In 1972 the Florida State Department of Education funded a project to examine the suitability of using CLEP scores in lieu of Graduate Record Exam scores for admission of Adult Vocational Education teachers to Master's programs in Adult Vocational Education (Florida, 1973).

This study was coincidentally contemporaneous with the granting of millions of dollars in Federal funds for development of Adult Vocational Education programs.

The rationale for using CLEP instead of the GRE was that Adult Vocational Teachers were mature individuals whose formal schooling was too far behind them for them to be able to perform well on the GRE. However, what they required was expertise in their subject matter area which they obtained by non traditional means, like working at it, for instance. The CLEP tests are reported to be valid measures of non traditional learning. Also, a test at a lower level of academic skill was considered to be adequate. Unfortunately, as discussed previously, the CLEP tests are not good predictors of future academic success even at the upper division let alone at the graduate level.

Nevertheless on the basis of the academic success of a small subset of a self selected sample of volunteers (57 teachers out of the 732 who took the test out of the 7,000 teachers in the State), a cutoff of a total of 2,250 for the five tests with a minimum score of 400 on each test was recommended for admission to Master's level Adult Vocational Education.

The task force recommended a number of other things including that Vocational Education teachers embark on a course of study, either formal or self directed before taking CLEP, and that those admitted under the CLEP criteria not be allowed to transfer to other programs without meeting usual admission requirements.

Independent Study

To date three institutions offer degrees by independent study using CLEP as a measure of achievement (CLEP, 1973; Nolan, 1972).

In addition the Dallas Public Library has established a CLEP information center to provide assistance to people who want to study on their own and then take CLEP tests (Reich, 1972).

Summary

In their present state the CLEP general examinations do provide a mechanism for students to earn credit-by-examination. Apparently there is some evidence, albeit inconclusive, that the CLEP tests have moderate to good content validity and moderate to poor concurrent validity. The problem with the concurrent validity seems to stem as much from the lack of adequate criteria as from any fault in the tests themselves. I would speculate that CLEP tests probably measure achievement in undergraduate general studies at least as well as teacher made course tests (see Thorndike and Hagen, 1969, for descriptions of problems inherent in teacher made tests). In addition, the CLEP tests do provide a comparative measure of achievement based on a large sample of college sophomores. Even if they don't measure knowledge of general studies too well, they do show where an individual stands in comparison to the norming sample. The test reliability coefficients are inflated somewhat by use of internal consistency measures on a speeded test.

The first improvement that comes to mind would be to redesign separate tests around community college curricula on the one hand and four-year college and university curricula on the other. This would satisfy the universities in which the level of material sampled is considered to be too low (Legg, 1976; Caldwell, 1973; Beanblossom, 1969). However, this is not a viable change. In Florida the upper division colleges are dependent on community college transfers. The transfer students could get CLEP credit for a community college level test and transfer it into the upper division college. The student entering a university would probably be required to pass the more difficult university CLEP and cries of discrimination would be heard throughout the State.

However, the CLEP tests (and the curricula upon which they are based) should be examined for high school level material. If such is found it should be purged from the tests and bonafide college material substituted (see Caldwell, 1973). The tests are about due for re-norming after 13 years (APA, 1973) so this would be a good time to make revisions. It might also overcome some of the objections of the universities if norming sample means were established for each subelement of the population, i.e., for community college, four-year college and university sophomores. (Legg, 1976; Beanblossom, 1969.)

As for the subject exams, where they are appropriate they seem to work well and where they do not match curricula they are not used (USF, 1975; Hall, 1976). I seriously doubt if any test could be designed to satisfy all institutions (Coad, 1973). The tests as they exist probably do as well as any other. CEEB does an adequate job of informing users concerning the validity and content of these. There seems to be little in the literature concerning use of these, an indication, I think, that they are both uncontroversial and rather specific.

As a final remark, I think the CLEP tests may have been over sold. The extensive advertising campaign, mostly donated, would lead one to believe that the tests offer hope to the millions (College Board, 1971). Even Abe Lincoln could have benefited from CLEP (Caldwell, 1973). The tone of the CLEP manual is much more optimistic about validity than the CEEB validation study data justify (Sharon, 1971). There also appears to be strong political pressure surrounding acceptance of CLEP (Ballowe, 1973). Their use in Florida against opposition by the universities is a case in point. Even if the tests had perfect reliability and validity such pressures might be enough to make an academic person think twice before accepting them.

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GENERAL EXAMINATION DESCRIPTIONS

ENGLISH COMPOSITION

There are two examinations in English composition: the General Examination and the Subject Examination entitled College Composition. See page 49 for a description of the Subject Examination. Be certain you know which of the two examinations is required by your institution.

When you take the General Examination in English Composition, you will be asked to show how well you can handle the kind of writing that college students are most often asked to do. Because there are numerous ways of teaching people how to write, the General Examination in English Composition contains no questions that focus on material or approaches identified with a particular course of study.

The standard by which your answers to questions on this examination will be judged right or wrong is generally referred to as "standard written English," or the conventional language that a student is expected to use in most academic situations. It is, for example, the language of most textbooks and assigned papers.

The conventions of standard written English call for particular solutions to the problems of grammar, usage, diction, and idiom, as well as the construction of clear and varied sentences that have a style appropriate to the intended purpose and audience.

The General Examination in English Composition contains about 90 questions to be answered in 60 minutes. Each form of the test consists of three of the four kinds of multiple-choice questions described in the following pages. The questions are organized by kind into sections, and each section has its own directions.

One kind of question asks you to recognize writing that is correct and effective according to the conventions of standard written English. Each question consists of a sentence with four of its parts underlined and lettered. In most of the questions, one of the underlined parts will be incorrect or at least unacceptable as standard written English. Some of these underlined words or phrases are obviously right or wrong, but in the more difficult questions two or more of the underlined parts may present fairly complex problems of usage. Therefore, you should look carefully at *all* the underlined parts before you decide which response to make. Remember, too, that some of the sentences do not have any error at all, and you should be prepared to select answer (E) for such questions.

Here are sample directions and questions of the kind just described:

Directions: **This is a test of standard written English, which differs from conversational English. Many of the following sentences, when considered as written composition, contain errors in grammar, usage, word choice, and idiom.**

No sentence contains more than one error. Some of the sentences are correct.

The error, if there is one, is underlined and lettered. All other elements of the sentence are correct and cannot be changed.

If there is an error, select the one underlined part that must be changed in order to make the sentence correct.

If there is no error, select answer E.

EXAMPLES:	ANSWERS
I. He spoke $\underset{A}{\underline{\text{bluntly}}}$ and $\underset{B}{\underline{\text{angrily}}}$ to $\underset{C}{\underline{\text{we}}}$ $\underset{D}{\underline{\text{spectators.}}}$ $\underset{E}{\underline{\text{No error}}}$	Ⓐ Ⓑ ● Ⓓ Ⓔ
II. He $\underset{A}{\underline{\text{works}}}$ $\underset{B}{\underline{\text{every day}}}$ $\underset{C}{\underline{\text{so that}}}$ he would become $\underset{D}{\underline{\text{financially}}}$ independent in his old age. $\underset{E}{\underline{\text{No error}}}$	● Ⓑ Ⓒ Ⓓ Ⓔ

SAMPLE QUESTIONS

1. The senator $\underset{A}{\underline{\text{had voted}}}$ $\underset{B}{\underline{\text{against}}}$ the Wilson bill; yet no one $\underset{C}{\underline{\text{was more}}}$ interested in reforestation $\underset{D}{\underline{\text{than him.}}}$ $\underset{E}{\underline{\text{No error}}}$

2. $\underset{A}{\underline{\text{Every time}}}$ $\underset{B}{\underline{\text{he turns}}}$ the book $\underset{C}{\underline{\text{in his}}}$ enormous hands, the muscles of his big arms rolled $\underset{D}{\underline{\text{slightly}}}$ under the smooth skin. $\underset{E}{\underline{\text{No error}}}$

3. Had the minister $\underset{A}{\underline{\text{not worked}}}$ $\underset{B}{\underline{\text{with so many}}}$ different youth groups, his proposal $\underset{C}{\underline{\text{might receive}}}$ $\underset{D}{\underline{\text{less support than}}}$ the senators gave it. $\underset{E}{\underline{\text{No error}}}$

4. The king, $\underset{A}{\underline{\text{whom}}}$ the people $\underset{B}{\underline{\text{loved,}}}$ $\underset{C}{\underline{\text{had given}}}$ the Prime Minister neither overt $\underset{D}{\text{or}}$ tacit encouragement. $\underset{E}{\underline{\text{No error}}}$

Another kind of question asks you to recognize actual errors and other unacceptable constructions. The possible sources of error are not identified; that is, there are no underlinings. Therefore, you will have to read and analyze each sentence carefully and then categorize it according to specific directions. As with the first kind of question, some sentences have no errors at all, and these sentences should be marked (E) on your answer sheet. (In the directions below, the sources of error or weakness in each sample sentence have been underlined to help you see why the sentence is classified as it is. In the test, however, no underlining is provided.) Study the following directions and sample questions that illustrate the kind just described.

Directions: **Each sentence in this section presents a problem in the use of standard written English. Some sentences are correct. Each of the other sentences is faulty for only one of the following reasons; that is, no sentence contains more than one kind of error.**

Faulty Diction: (A) **Improper use of words, because they are not exact, they are not idiomatic, or they are not acceptable in standard written English**

> **EXAMPLES:** **The members were strongly altered by the president's speech and voted unanimously for changing of the bylaws.**
>
> **Henderson refused to listen at Dr. Gregg, who had conducted an awful lot of experiments to determine whether the drug was safe to human beings.**

Verbosity and Redundancy: (B) **Wordiness in a sentence or unjustifiable repetition of an idea**

> **EXAMPLES:** **At that time there was then no right of petition.**
>
> **He was grateful for a present, made of genuine real ivory, that was given to him.**

Clichés and Inappropriate Metaphors: (C) **Clichés (trite phrases) or mixed metaphors (misused figurative language)**

> **EXAMPLES:** **Usually as gentle as a lamb, he became livid with rage when he heard the story that was rocking the community.**
>
> **The scourge of tyranny had breathed its last.**

Faulty Grammar and Sentence Structure: (D) **Grammatical and structural errors that make a sentence unacceptable in standard written English, e.g., improper tense, case, or number; failure to maintain parallel structure; incorrect placement of modifiers**

> **EXAMPLES:** **Hamilton told Jefferson that the reasons were not obvious to Franklin and he.**
>
> **The commission decided to reimburse the property owners, to readjust the rates, and that they would extend the services in the immediate future.**

No sentence has more than one kind of error. Some sentences have no errors. Read each sentence carefully; then blacken space

(A) if the sentence contains *faulty diction;*
(B) if the sentence is *verbose or redundant* (wordy);
(C) if the sentence contains *clichés or inappropriate metaphors;*
(D) if the sentence contains *faulty grammar or sentence structure;*
(E) if the sentence contains *none* of these errors.

SAMPLE QUESTIONS (continued)

5. The birth rate for city dwellers is somewhat lower than the higher rate for rural dwellers.

6. Lincoln had guided the ship of state through stormy waters to the summit of success before his assassination.

7. His angry refusal to relent to superior force was the elementary cause of his downfall.

8. The texts of ancient authors supplied hints which led to discoveries even more far-reaching in their results than Copernicus, Columbus, and Galileo.

Another kind of question is like those just presented in that no part of the sentence is underlined and no optional corrections are provided. Unlike the previous kind, however, each sentence here is correct, though it may not be the most effective sentence that might be written. You will be asked to change the sentence according to specific directions—that is, to "rewrite" the sentence, but to keep, insofar as possible, its original meaning. Sample directions and questions that illustrate the kind just described are shown below.

Directions: **In each of the following questions you are given a complete sentence to be rephrased according to the directions that follow it.**

Below each sentence and its directions are listed words or phrases that may occur in your revised sentence. When you have thought out a good sentence, look in the choices A through E for the word or entire phrase that is included in your revised sentence. The word or phrase you choose should be the most accurate and most effective of all the choices given, and should be part of a sentence that meets the requirements of standard written English.

Of course, a number of different sentences can be obtained if the sentence is revised according to directions, and not all of these possibilities can be included in only five choices. If you

should find that you have thought of a sentence that contains none of the words or phrases listed in the choices, you should attempt to rephrase the sentence so that it does include a word or phrase that is listed.

Although the directions may at times require you to change the relationship between parts of the sentence or to make slight changes in meaning in other ways, make only those changes that the directions require; that is, keep the meaning the same, or as nearly the same, as the directions permit. If you think that the directions permit more than one good sentence, select the sentence that is most exact and effective in phrasing and construction.

EXAMPLES:

I. **Sentence:** Coming to the city as a young man, he found a job as a newspaper reporter.

Directions: Substitute He came for Coming.

(A) and so he found
(B) and found
(C) and there he had found
(D) and then found
(E) and had found

Your rephrased sentence will probably read: "He came to the city as a young man and found a job as a newspaper reporter." This sentence contains the correct answer: (B) and found. A sentence which used one of the alternate phrases would change the meaning or intention of the original sentence, would be a poorly written sentence, or would be less effective than another possible revision.

II. **Sentence:** Owing to her political skill, Ms. French had many supporters.

Directions: Begin with Many people supported.

(A) so
(B) while
(C) although
(D) because
(E) and

Your rephrased sentence will probably read: "Many people supported Ms. French because she was politically skillful." This new sentence contains only choice (D), which is the correct answer. None of the other choices will fit into an effective, correct sentence that retains the original meaning.

SAMPLE QUESTIONS (continued)

9. He was enthusiastic because of his recent success; therefore, he continued the project.

Begin with Enthusiastic.

(A) successful, and he (B) success, so he
(C) success; therefore, he (D) successful; therefore, he
(E) success, he

10. Whether an essay is formal or informal depends upon the spirit in which it is written.

Begin with The spirit.

(A) depends on (B) is dependent upon
(C) is determined by (D) determines whether
(E) will determine when

11. These rules for conduct were important not only to those who aspired to invitations from duchesses but also to those who dreamed of nothing more splendid than Mrs. Jones's dinners.

Substitute both for not only.

(A) also (B) as well as (C) but (D) too (E) and

12. A catalogue of all the species of plants and animals of a district represents its flora and fauna in the same way as a list of all the items of the general life of a people represents its culture.

Begin with Just as.

(A) like a list (B) so a list (C) therefore a list
(D) in the same way a list (E) while a list

Another kind of question asks you not so much to identify unacceptable usage as to choose the best way of phrasing a sentence. Part of the sentence or the entire sentence is underlined. In some of the sentences the underlined part does not meet the requirements of standard written English and needs to be rephrased; in some of the sentences the underlined part is correct. Sample directions and questions that illustrate the kind just described are shown below.

Directions: In each of the following sentences some part of the sentence or the entire sentence is underlined. What is underlined presents a problem in the appropriate use of language. Beneath each sentence you will find five ways of phrasing what is underlined. The first of these repeats the original, but the other four are all different. If you think the original sentence is better than any of the suggested changes, you should choose answer A; otherwise you should select one of the other choices.

In choosing answers, remember to follow the requirements of standard written English and choose the answer that produces the most effective sentence—clear and exact, without awkwardness or ambiguity.

SAMPLE QUESTIONS (continued)

13. Despite his youth and the limited number of his publications, his outlook on our world and its problems are enough to have shown us his greatness as a humanist.

(A) are enough to have shown us
(B) are enough to be showing us
(C) is enough that it shows us
(D) is enough for showing us
(E) is enough to show us

14. Forbidden by his father to study music, his first violin lessons were taken secretly.

(A) Forbidden by his father to study music, his first violin lessons were taken secretly.
(B) Although forbade to study music by his father, he took his first secret violin lessons.
(C) His father having forbidden him to study music, so his first violin lessons were taken secretly.
(D) Because his father forbade him to study music, he took his first violin lessons secretly.
(E) Because of his father forbidding him as to studying music, he took his first violin lessons secretly.

15. In Malthus' celebrated essay, it discusses the evils of overpopulation.

(A) In Malthus' celebrated essay, it
(B) In Malthus' celebrated essay, he
(C) In his celebrated essay, Malthus
(D) In the celebrated essay by Malthus, he
(E) In a celebrated essay by Malthus, it

16. Mitchell is quick-tempered and selfish, causing him to have few friends.

(A) selfish, causing him to have
(B) selfish, thus causing him to have
(C) selfish; this is the cause of his having
(D) selfish, therefore having
(E) selfish; therefore he has

You can see that the General Examination in English Composition will ask you to spot errors or weaknesses where they exist, to evaluate and classify sentences that are either incorrect or unacceptable for some specific reason, and to construct sentences of various kinds. All the questions cover points of correctness and effectiveness of expression that are considered important by scholars and teachers who have experience with the writing done by college students.

ANSWER KEY TO SAMPLE QUESTIONS
(English Composition)

1. D
2. B
3. C
4. D
5. B
6. C
7. A
8. D
9. E
10. D
11. E
12. B
13. E
14. D
15. C
16. E

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TESTS AND MEASUREMENTS

The examination in Tests and Measurements is designed to measure a student's ability to use the information, concepts, and techniques commonly taught in a one-semester college course. The content specifications were developed from an outline suggested by a committee of the National Council on Measurement in Education. The examination is about equally divided among three major categories: classroom tests, standardized tests, and statistical concepts. There are also a few questions on miscellaneous topics such as special measurement devices. For the most part, the examination requires knowledge of techniques, the terminology, and the sort of information one is most likely to obtain from a college course or from a textbook in tests and measurements; but some questions might be covered in an introductory course in statistics, some by other courses in educational practices, and still others could be answered on the basis of a teacher's professional experience.

Some of the topics covered in the examination apply particularly to teacher-made tests, some to standardized tests, and many apply to both types of tests. The student is expected to know how to formulate plans and objectives for tests, how to recognize the qualities of a test question that tend to make it effective or ineffective, what the basic requirements are for efficient test administration and scoring, and how to evaluate test norms and to interpret test results. Several of the questions present a sample test question and ask for criticism of that sample question. There are questions on descriptive statistics including correlation, on reliability and validity, on item analysis, and others on sampling and sampling error. In this examination there are approximately 100 multiple-choice questions to be taken in 90 minutes.

Although there is wide variation in the difficulty of individual questions on the test, most are intended to be of only moderate difficulty. Since the test is designed to be fair to people who have been prepared in different ways or have taken courses at different colleges, it is not expected that everyone taking the test will be able to answer every question. For example, at the conclusion of appropriate courses at 15 colleges, the typical "A" student (scaled score: 64) on the average answered approximately 69 percent of the questions correctly, while the typical "C" student (scaled score: 46) answered approximately 45 percent correctly.

The optional essay section consists of four questions, three of which are concerned with the interpretation and application of test results. They require the student to apply the judgment that might be required of a teacher or school administrator in preparing a report on a testing program. The fourth question allows the student to choose one of two optional problems and to use a small set of test-score data to compute some descriptive statistics.

SAMPLE QUESTIONS

Directions: **Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the one which is best in each case.**

1. When a teacher is formulating an outline for a classroom achievement test, he should give primary consideration to the dimensions of

(A) skills required and depth of insight
(B) depth of insight and content coverage
(C) content coverage and question form
(D) question form and skills required
(E) skills required and content coverage

2. **In items**

(A) it is unnecessary to have more than one plausible answer
(B) it is important to have at least five answer choices
(C) one should avoid the use of specific determiners
(D) it is best to concentrate on highly specific factual material for which there is one and only one correct answer

Which of the following revisions of the item above would probably be most valuable?

(A) Adding a fifth answer choice, "None of the above"
(B) Shortening the fourth answer choice
(C) Lengthening the stem to clarify and delimit the problem
(D) Changing the negative word, "unnecessary," in choice A to a positive word
(E) Changing the answer choices so that all of them are concerned with the stem

3. American test publishers most often report validity data for their standardized tests in

(A) professional journals
(B) textbooks
(C) test manuals
(D) Buros' ***Mental Measurements Yearbook***
(E) catalogues

4. With respect to the design and construction of aptitude and achievement tests, a major difference between them lies in the effort expended to insure that for an aptitude test

(A) the test be long enough to be reliable
(B) the test include multiple-choice as well as essay-type questions
(C) the test be appropriate for all age groups
(D) all subjects be able to finish the test in the time allotted
(E) the test questions relate to experiences that subjects have in common

5. If an experiment to contrast the effectiveness of two methods of teaching reading to first-grade children in city schools is based on a sample of cases made up of all the students in a single classroom, the sample is LEAST likely to be

(A) a random sample for the purpose of the experiment
(B) a biased sample for the purpose of the experiment
(C) distributed approximately normally with respect to test scores
(D) distributed somewhat irregularly with respect to test scores
(E) about as able, on the average, as the national sample used in obtaining the norms for the test used in the experiment

6. On an easy 10-question test, scores ranged from a low of 4 points to a high of 10 points. Eighty-five percent of the students received a score of 7 or better. The semi-interquartile range for this set of scores is most likely to be about

(A) 1 (B) 2 (C) 3 (D) 6 (E) 8½

7. Which of the following procedures for determining reliability coefficients is influenced by the most sources of error variance?

(A) Parallel forms of a test given on separate occasions
(B) Parallel forms of a test given at the same time
(C) Retest of the same form given on separate occasions
(D) Retest of the same form given at the same time
(E) Odd-even halves of a test

8. A reading test was given to all students in a junior high school and the reliability was calculated to be .92. A teacher calculates the reliability of the test for her own class and arrives at a reliability coefficient of .75. Assuming these calculations are correct and that the same method was used, to what can she attribute this difference?

(A) The mean reading level for her class is lower than that of the school.
(B) Her class is smaller in number than the school population.
(C) Her class is a more homogeneous unit than the school population.
(D) The test did not measure what it claimed to measure.
(E) Her instruction practices are not as effective as those of other teachers.

9. Experience has shown that 75 percent of those hired for a certain job prove to be successful. A test is administered to 80 applicants and the 40 men with the highest test scores are hired. If it turns out that the test has zero validity, what percent of these men should be expected to be successful?

(A) 0% (B) 40% (C) 50% (D) 75% (E) 80%

10. A question on a measuring instrument reads, "With which other member of this class would you most like to work?" This question is most likely part of

(A) an introversion-extraversion inventory
(B) an attitude scale
(C) a sociometric test
(D) a Rorschach test
(E) a study of skills and work habits inventory

11. The studies of May and Hartshorne are an example of what approach to personality testing?

(A) Projective techniques
(B) Behavior measures of character
(C) Sociometric techniques
(D) Self-ratings
(E) Q-sorts

ANSWER KEY TO SAMPLE QUESTIONS
(Tests and Measurements)

1. E
2. C
3. C
4. E
5. A
6. A
7. A
8. C
9. D
10. C
11. B

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APPENDIX C

Subject Examinations

- Accounting, Introductory
- Afro-American History
- American Education, History of
- American Government
- American History
- American Literature
- Anctomy, Physiology, Microbiology
- Behavioral Sciences for Nurses
- Biology
- Business Law, Introductory
- Business Management, Introductory
- Calculus, Introductory
- Calculus with Analytic Geometry
- Chemistry, General
- College Algebra
- College Algebra-Trigonometry
- Computers and Data Processing
- Computer Programming, Elementary-Fortran IV
- Economics, Introductory
- Educational Psychology
- English Composition
- English Literature
- Freshman English
- Fundamentals of Nursing
- Geology
- Human Growth and Development
- Literature, Analysis and Interpretation of
- Macroeconomics, Introductory
- Macroeconomics and Microeconomics, Introductory
- Marketing, Introductory
- Medical Technology
  - Clinical Chemistry
  - Hematology
  - Immunohematology
  - Microbiology
- Medical-Surgical Nursing
- Microeconomics, Introductory
- Psychology, General
- Sociology, Introductory
- Statistics
- Tests and Measurement
- Trigonometry
- Western Civilization

HELPING ADMINISTRATORS SHIFT TO SHORT-RANGE ENROLLMENT PROJECTIONS

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HELPING ADMINISTRATORS SHIFT TO SHORT-RANGE ENROLLMENT PROJECTIONS

I. INTRODUCTION AND PURPOSE

Current and projected enrollment figures are an essential consideration in planning the university's staffing, space, and budget requirements. In the 1976 fall quarter, student enrollment (expressed in terms of credit hours) declined to 188,889, down 4.1 percent from the 196,995 level of the previous fall.

An additional decline in credit hours taught in the winter quarter, 1977, raises the question of whether or not these successive declines indicate a future downward trend. Such a development would have great impact on a university which has grown steadily and substantially for many years.

In contrast, no such question was raised when an enrollment decline of greater magnitude -- almost 30 percent -- occurred in the preceding summer quarter of 1976. This is because the most recent enrollment figure, and what it portends for future quarters, is usually judged against a pattern of expected behavior based largely upon observed past patterns. In this instance, the summer quarter enrollment fall-off raised no questions because the decline was no more than the expected seasonal variation. It is a common anticipation that total credit hour enrollment is down every summer.

In order to establish an empirical basis of such expected enrollment behavior, this study examines the pattern of enrollment variations at GSU over the past ten years. The result is not a rigorous predictive model of future enrollment behavior. Indeed, quarter-to-quarter changes in any historical series are largely random. Nevertheless, a thorough understanding of past enrollment patterns can help identify those current enrollment variations that are truly novel and bear a closer look. Such variations that break the established pattern may indicate a trend change which warrants administrative action either to adjust to the new trend or to counter the change in trend.

Moreover, a familiarity with past enrollment patterns may be helpful to the Deans and Vice Presidents who make the annual enrollment forecast for budget purposes. The identification of enrollment variations that recur in a stable manner permits their removal from discussion.

For instance, if there is a stable relationship between fall quarter enrollment and winter, spring, and summer quarter enrollments every year, only the fall quarter figure need be projected. The figures for the remaining quarters would be a matter of arithmetic. Three-fourths of the numbers are thus struck from active deliberation. Forecasters can then focus their judgment on the more volatile trend elements whose behavior must be explicitly assumed for the projection period.

II. PLAN OF THE STUDY

The study applies the classical method of time series analysis to GSU credit hour enrollment data. This method separates the variations over time into a pattern of four types of change. These are short-term seasonal variation, long-term trend variation, an intermediate-term cyclical variation, and one-time variations that occur randomly.

In the case of university enrollment, the seasonal variation, if any, would occur quarterly. The trend variation would be the historical growth path. The cyclical variation, again if any, might relate to the cyclical behavior of the economy. And, finally, random variations would be unique events such as the initiation of a new academic program or non-degree work.

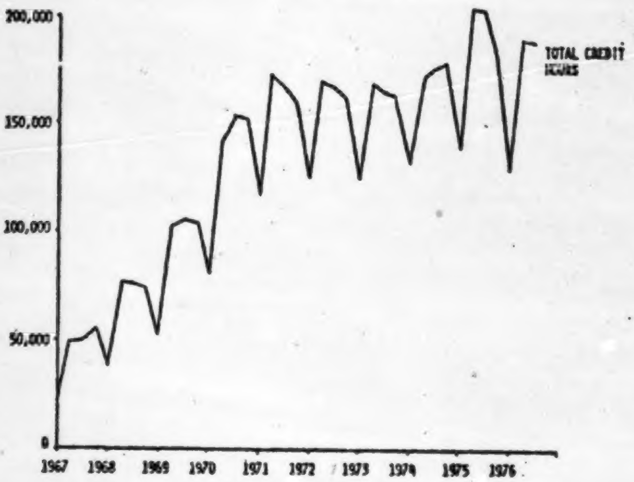
Classical time series analysis first removes the seasonal variation from the data series using a moving average technique. The seasonally adjusted series is then measured for trend variation using a least-squares curve fitting technique. Next, this isolated trend variation is subtracted from the deseasonalized series, leaving residual values whose variation may be cyclical or random. Any evident cyclical behavior in the residual values can be investigated further to see if there is a parallel with cyclical behavior in other time series. If there is a correlation with another series, and if variations in the other series occur earlier in time, this lead-lag relationship can be a useful forecasting tool.

In this step-wise manner, the study first analyzes the variation of total credit hours at GSU to establish the basic patterns. Then the enrollment pattern of each academic school is compared or contrasted with the university's basic pattern. The analysis by school should be of greater use to each dean's office which is especially interested in anticipating its respective enrollment behavior. As a further aid, the analysis by school is broken down into graduate, upper division, and lower division hours.

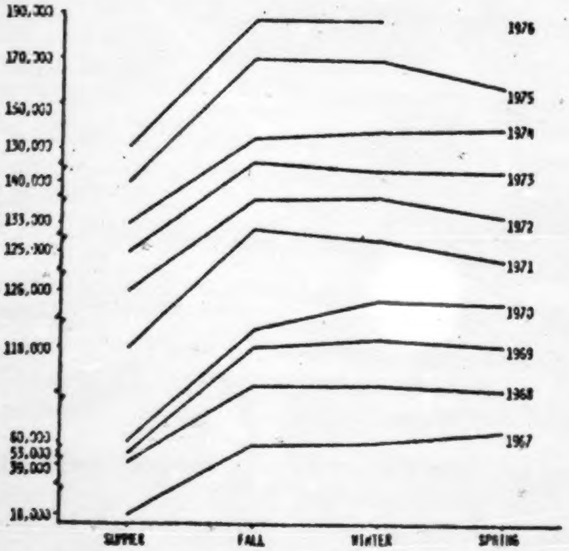
III. ANALYSIS OF ENROLLMENT PATTERNS

A. Seasonal Variation

The chart of total credit hours by quarter from 1967 to 1976 reveals an annual rise and fall in enrollment.

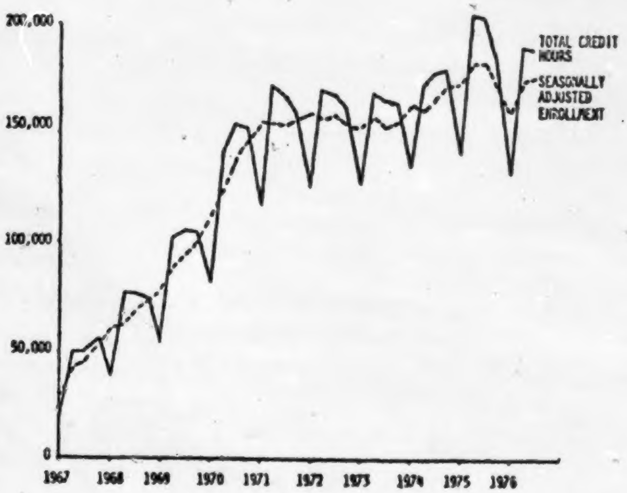


This seasonal rhythm becomes even more apparent when the credit hours are plotted by consecutive quarter so that each year's data is presented tier-wise above that of the preceding year.



The tier chart reveals that not only is there an annual variation, but that the variation forms a recurring pattern. It appears that credit hour enrollment for the university as a whole is low each summer, rises sharply to a peak in the fall quarter, and then declines somewhat during the winter and spring quarters.

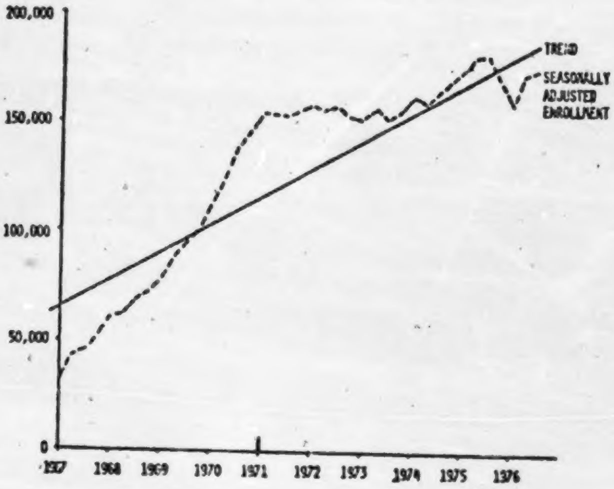
Because of the regularity of the pattern, it is possible to compute a seasonal index of this variation. Dividing each quarter's enrollment figure by the corresponding seasonal index, it is possible to remove, or "adjust for", the recurring seasonal influence (see Appendix A, Columns 1 - 4).



The seasonally adjusted data can then be compared on a quarter to quarter basis and examined for factors other than seasonality that affect the variations.

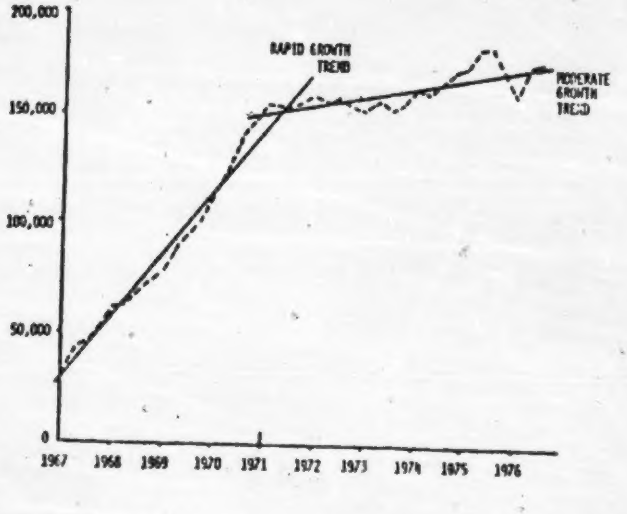
B. Trend Variation. The first of these other, non-seasonal factors considered is the long-term growth trend. A chart of seasonally adjusted quarterly data reveals that while GSU's enrollment has grown steadily, it has not done so at a constant rate.

A period of very rapid expansion drew to a close about 1971. There has followed a period evidencing a relatively lower growth rate. Consequently, the data does not conform very well to a single fitted linear trend line.



An earlier GSU enrollment study[1] found that no single curve--not even a more complex logistic growth curve which allows for an initial rapid-growth period--describes the GSU pattern accurately.

A separate trend line for each period appears to have a better "fit", in the sense of minimal variance of actual enrollments from the calculated trend path.



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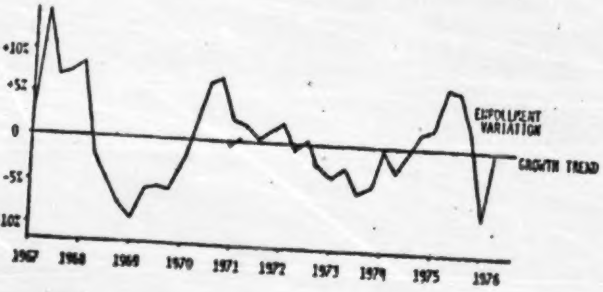
[1] James E. Prather, "Estimating Enrollment for 1974-75", OIP, October, 1973.

A more recent enrollment study[2] fitted two exponential trend lines, one for the 1964-1971 period and another for the 1971-1976 period. The present study also breaks the trend at the 1971-summer quarter. However, a linear trend is used for each period because of its simplicity and because the standard error is only marginally greater than that of the exponential curve in each period. The graph illustrates that the data conforms reasonably well to the two fitted linear trend lines.

C. Cyclical Variation

Any discussion of the significance of the trend value for future growth rates is avoided at this point since the trend is fitted primarily to isolate the residual values for closer examination. In the classical analysis, the residuals are variations in enrollment not accounted for either by seasonal factors or by the long-term trend line.

In this case, a definite cyclical pattern does emerge in the total credit hour residual values. (See Appendix A, columns 5 - 7 for actual values.) The residuals' cyclical pattern is visually more apparent if the trend lines are drawn horizontally to emphasize the divergence of the seasonally adjusted credit hour figures from the fitted growth path.



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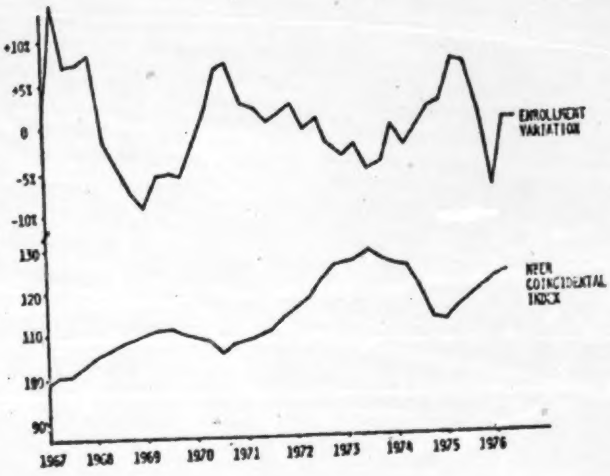
[2] James E. Prather and Glynton Smith, "Enrollment Forecasting at GSU: One Perspective", OIP Report No. 76-5, October 1975.

Enrollment fell below the trend growth from the fall quarter 1968 to the summer quarter 1970 and again from the fall quarter 1972 to the winter quarter 1975.

To see if these quarters of enrollment contraction relate to periods of economic expansion or contraction, the series is compared with the National Bureau of Economic Research's (NBER) index of coincidental indicators. This is an index of time series whose turns in the past have coincided roughly with those of successive business cycles.



The chart suggests that economic activity does affect GSU enrollment variation. However, the relation is inverse, that is, an increase in economic activity appears to have a dampening effect on credit hour enrollment.

This relationship can be measured more precisely. Simple regressions give an exact correlation coefficient between the credit hour residuals and various measures of local, state, and national economic activity. The table shows the results of these regressions.

TABLE OF CORRELATION COEFFICIENTS

(Values may range from .000, no correlation,
to 1.000, perfect correlation)

Quarterly Economic Indicators	Total Credit Hours (% Variation from Trend)	
	1967-71	1971-76
Atlanta Non-Agr. Employment (% Variation from Trend)		
leading 1 qtr.	-.571*	-.597
same qtr.	-.500	-.742*
lagged 1 qtr.	-.340	-.480
Georgia Non-Agr. Employment (% Variation from Trend)		
lagged 1 qtr.	-.828*	-.556
lagged 2 qtrs.	-.777	-.581*
lagged 3 qtrs.	-.561	-.441
NBER Leading Index		
lagged 2 qtrs.	-.718	-.678
lagged 3 qtrs.	-.725*	-.733*
lagged 4 qtrs.	-.687	-.648
NBER Coincidental Index		
same qtr.	-.722	-.537
lagged 1 qtr.	-.754*	-.659*
lagged 2 qtrs.	-.707	-.632
Georgia Weekly Hours Worked		
lagged 3 qtrs.	-.471	-.607
lagged 4 qtrs.	-.476*	-.649*
lagged 5 qtrs.	-.161	-.433

*highest correlation

As the table shows, the cyclical variation in GSU credit hours correlates highly (though inversely) with the cyclical variation in Atlanta area employment. The relationship holds for both the 1967-71 rapid growth period and for the 1971-76 moderate growth period. Moreover, during the more recent period, the highest correlation coefficient for enrollment variation and Atlanta employment variation is attained during the same quarter. In other words, an increase in Atlanta employment during a particular quarter coincided with a like decrease in GSU enrollment during the same quarter.

The other measures of variation in economic activity also correlate highly with the cyclical variation in enrollment. The closest parallel is the .733 coefficient for the NBER index of leading indicators. In this case, however, the highest coefficient is attained by lagging the index values three quarters. This means that an increase in the index value during a particular quarter coincided with a like decrease in enrollment three quarters later.

This lead-lag relationship has strong potential for short-term forecasting purposes. (See Appendix C) This is especially true for Georgia weekly hours worked in manufacturing. Variation in this data series preceeded GSU enrollment variation by fully one year.

D. Enrollment Patterns by School

The classical approach of separating enrollment variation into seasonal, trend, and cyclical components can also help identify recent enrollment variation in each school of the university. The table on the following page summarizes the results of such an analysis.

Looking first at the seasonal variation, it is apparent that only the lower division hours of the School of Arts and Sciences and Developmental Studies, and the upper division hours of the School of Urban Life, peak in the fall quarter.

SUMMARY OF
CREDIT HOUR ENROLLMENT VARIATION
1971 - 1976 (22 Quarters)

	Seasonal Index		Growth Trend	Cycle[1]	
	Low	High	(Ave. Annual %)	Peak	Trough
Allied Health					
Graduate	.67	1.56(Spring)	*	*	
Upper Div.	.44	1.24(Winter)	41.8	16.6	-13.2
Lower Div.	.22	1.39(Winter)	12.8	35.5	-26.7
Arts & Sciences					
Graduate	.96	1.11(Summer)	0.6	17.6	-12.5
Upper Div.	.73	1.11(Spring	-6.8	10.1	- 7.9
Lower Div.	.58	1.23(Fall)	-0.7	9.6	-11.1
Business Administration					
Graduate	.80	1.09(Winter)	7.1	12.6	- 9.1
Upper Div.	.73	1.10(Winter)	8.1	9.4	-10.3
Lower Div.	.67	1.14(Winter)	3.5	5.2	-16.3
Education					
Graduate	.88	1.35(Summer)	10.8	10.6	-14.9
Upper Div.	.71	1.15(Spring)	-4.2	18.7	-17.3
Lower Div.	.60	1.25(Spring)	-1.5	39.8	-43.3
Urban Life					
Graduate	.70	1.20(Fall)	-13.6	22.7	-28.5
Upper Div.	.65	1.13(Winter)	15.9	18.9	-17.8
Lower Div.	.36	1.45(Spring)	*	*	
Developmental Studies					
Lower Div. (10 qtrs.)	.53	1.32(Fall)	27.8	25.3	-28.6

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[1] Maximum percent variation from trend.

*Under 300 credit hours

The large size of Arts and Sciences lower division underlies the fall quarter peak for the university as a whole.

In sharp contrast, the School of Education graduate division and graduate Arts and Sciences face their highest enrollment during the summer quarter each year. The table also shows that the various divisions of each school peak at different quarters, except in the case of the School of Business Administration. There, all three divisions peak each year during the winter quarter. This divergence of seasonal patterns presents each school with a different pattern in its annual staffing requirements.

Looking next at the trend variation from 1971 to 1976 (22 quarters), there is also considerable difference among the patterns of each school. The newer programs of Allied Health, Developmental Studies, and the upper division of Urban Life have shown rapid increases in enrollment. Of the more established schools, only Business Administration has maintained a steady rate of growth in all divisions. Education shows mixed trends, with strong growth in its graduate division, but declining enrollment in its upper and lower divisions. While Arts and Sciences has maintained a steady level of graduate division hours, the upper and lower division enrollment has declined. The upper division has lost enrollment at an average 7 percent annual rate since 1971.

Turning finally to the cyclical variation, credit hours at most schools reflect the same inverse relation to economic activity as do total credit hours. The exceptions are graduate Education, upper division Urban Life, lower division Business Administration, and all divisions of Allied Health. Credit hour enrollment in these divisions appears to increase directly with economic activity.

An important point to notice is the relative magnitudes of the cyclical swings and the trend changes. The amplitude of the cyclical changes range from 10% to -9% in the smallest instance and from 43% to -39% in the largest instance. The absolute annual trend values, on the other hand, range from a low of 0.6% to a high of 27.8%. In every case, the cyclical change is larger than the trend change. This means that for short periods, cyclical changes in enrollment can mask the longer-run trend change.

For instance, the 9.4% upswing in Arts and Sciences lower division enrollment in the winter quarter 1976 that paralleled the slackening in economic activity masked the 0.7% annual decline in long-term growth in this division. Conversely, the 5.5% cyclical downswing in graduate Business hours in the fall quarter 1976 masked the steadily increasing long-term growth.

It should be remembered that no statement can be made about future credit hour enrollment behavior without explicit assumptions that these past patterns will or will not continue. The present study makes no contribution to the dilemma of projecting the long-run growth trends. However, the study does make clear that quarter to quarter variations in enrollment should not be taken as conclusive evidence of growth trend changes. Such changes likely reflect the more predictable seasonal and cyclical variations. (See Appendices B and C for an example of how this conclusion can be useful in a short-run projection model).

IV. SUMMARY AND CONCLUSION

Current and projected enrollment behavior are an essential consideration in planning the university's staffing, space, and budget requirements. This study of quarterly credit hour enrollment at Georgia State University from 1967 to 1976 revealed definite and divergent patterns among the schools that make up the university. Using traditional methods of time series analysis, recurring seasonal and cyclical variations were established so that quarter-to-quarter changes can be anticipated. This study should assist administrators to identify those current enrollment variations that are truly novel. Such variations that break the established pattern may indicate a trend change which warrants administrative action either to adjust to the new trend or to counter the change in trend.

The analysis found that credit hour enrollment for the university as a whole is low each summer quarter, rises sharply to a peak in the fall quarter, and then declines moderately during the winter and spring quarters. Each division of the schools evidences a somewhat divergent pattern, however. Thus each school faces a different pattern in its annual staffing requirements. For instance, graduate credit hours in the School of Education increase substantially during the summer quarter each year rather than during the fall quarter.

Looking at the longer term trend pattern of total GSU enrollment, a period of very rapid expansion drew to a close about 1971. There has followed a period evidencing a relatively lower growth rate. Again, this pattern was not the same for all schools.

During the 1971-76 moderate growth period (22 quarters), the newer programs of Allied Health, Developmental Studies, and the upper division of Urban Life have shown rapid increases in enrollment. Of the more established schools, only Business Administration has maintained a steady rate of growth in all divisions.

Education shows mixed trends with strong growth in its graduate division, but declining enrollment in its upper and lower divisions. While Arts and Sciences has maintained an even level of graduate division hours, its upper and lower division enrollment has declined steadily.

GSU enrollment also has varied with the rises and declines of business activity. In general, enrollment has increased as business activity has declined. Two exceptions have been graduate Education and Allied Health. Here, enrollment has varied directly with the business cycle.

Of great interest, the cyclical swings in enrollment have been larger than the trend variation. This means that short-run cyclical changes in enrollment tend to mask the longer-run growth trend. For instance, the upswing in Arts and Sciences lower division enrollment that accompanied the business cycle decline in the winter quarter, 1976, masked the long-term downward growth trend. Not surprisingly, the negative trend again becomes visible as the business cycle recovers during 1977. It seems reasonable to anticipate that in coming quarters the momentum of further economic recovery will overstate the downward trend in this one division.

While this study makes no contribution to the projection of long-run growth trends, it does establish the pattern of short-run variations. Once these variations are commonly understood and anticipated, discussion of future enrollment variation can overlook quarter to quarter changes and focus instead on the trends within various schools.

Appendix A

TABLE OF SEASONAL, TREND, AND CYCLICAL CHANGES IN TOTAL CREDIT HOUR ENROLLMENT

(1) Year and Quarter	(2) Total Credit Hours	(3) Seasonal Index (3-yr ave)	(4) Seasonally Adjusted (2)÷(3)	(5) Fitted Trend Value	(6) Deviation from trend (4)-(5)	(7) Percent Deviation (6)÷(5)
1967-68						
Summer	18298	.63	29044	28711*	333	1.1
Fall	50358	1.20	41965	35985	5980	16.6
Winter	51882	1.12	46323	43258	3065	7.0
Spring	56055	1.03	54422	50532	3890	7.6
1968-69						
Summer	39500	.63	62698	57805	4893	8.4
Fall	76602	1.20	63835	65079	-1244	-1.9
Winter	76441	1.11	68866	72352	-4730	-4.8
Spring	75664	1.03	73460	79625	-6165	-7.7
1969-70						
Summer	53691	.68	78957	86899	-7942	-9.1
Fall	103181	1.16	88949	94172	-5223	-5.5
Winter	107371	1.12	95867	101446	-5579	-5.4
Spring	105490	1.03	102417	108719	-6302	-5.7
1970-71						
Summer	80233	.71	113004	115993	-2989	-2.5
Fall	141673	1.13	125374	123266	2108	1.7
Winter	154717	1.11	139385	130540	8845	6.7
Spring	153534	1.04	147629	137813	9816	7.1
1971-72						
Summer	118472	.76	155884	151684**	4200	2.7
Fall	173089	1.11	155936	152788	3148	2.0
Winter	169950	1.10	154500	153893	607	.4
Spring	161806	1.03	157093	154997	2096	1.3
1972-73						
Summer	126252	.79	159813	156101	3712	2.3
Fall	171879	1.10	156254	157205	-951	-.6
Winter	170476	1.07	159323	158309	1014	.6
Spring	162196	1.04	155958	159413	-3455	-2.1
1973-74						
Summer	125166	.81	154526	160517	-5991	-3.7
Fall	170873	1.08	158216	161621	-3405	-2.1
Winter	165117	1.07	154315	162726	-8411	-5.1
Spring	164406	1.05	156577	163830	-7253	-4.4
1974-75						
Summer	133214	.81	164462	164934	-472	-.2
Fall	173955	1.08	161069	166038	-4969	-2.9
Winter	178503	1.07	166825	167142	-317	-.1
Spring	180120	1.05	171543	168246	3297	1.9
1975-76						
Summer	140294	.81	173202	169350	3852	2.2
Fall	196995	1.08	182403	170454	11949	7.0
Winter	196083	1.07	183255	171558	11697	6.8
Spring	184725	1.05	175929	172663	3266	1.8
1976-77						
Summer	129703	.81	160127	173767	-13640	-7.8
Fall	188889	1.08	174897	174871	26	0.0
Winter	188326	1.07	176006	175975	31	0.0
Spring		1.05		177079		

* 1967-1971 linear trend is Y = 21438 + 7273t(std error 5887)

** 1971-1977 linear trend is Y = 150580 + 1104t(std error 6155)

Appendix B

USE OF PATTERNS IN AN EXPLANATORY EQUATION

The classical analysis identified the seasonal, trend, and cyclical components of the quarterly variation in GSU credit hours. There remains an unexplained residual variation consisting of one-time program change and a random error term. To test how well the first three isolated factors account for or "explain" quarterly enrollment variation, they can be used as components of a standard linear regression equation which is then fitted to the actual data. The equation takes the general form:

$$Y = a + B_1(X_1) + B_2(X_2) + B_3(X_3) + e,$$

where Y is total credit hours described as a function of $B_1(X_1)$ a trend factor, $B_2(X_2)$ a seasonal factor, $B_3(X_3)$ a cyclical factor, and e, an error term (all other factors). A "good" explanatory equation is one where calculated B factors, together with the known X values, account for a much larger percent of the variation in the Y values than does the error term.

In the particular GSU equation, the X_3 cyclical variable is the NBER index of leading indicators lagged three quarters, which the classical analysis found has a high correlation with the university's cyclical enrollment pattern. There are actually three seasonal variables X_2. These are categorical variables. If X_2 represents the winter quarter, it takes the value of 1 when the Y credit hour value is for the winter quarter, and 0 for other quarters. All X_2 values are 0 for the fall quarter Y values. The trend variable X_1 is simply the numerical series 1, 2, 3, ..., 22 for the quarters from 1971 to 1976.

The equation solved for the B coefficient values is

Total
Credit Hours = 229569 + 1219 (quarter 1-22) - 1250 (Winter = 1) - 7564 (Spring = 1)
- 49827 (Summer = 1) - 538 (NBER Leading Index) + e

The R^2 value is .970. This means that the equation in this form explains 97 percent of the variation during the 1971-76 period. (Also, d.w. = 2.11, which indicates no serial correlation.)

Appendix C

USING THE EQUATION FOR SHORT-TERM PROJECTIONS

The regression equation developed in Appendix B does a remarkable job of explaining enrollment variation over the 1971-76 period. Note, however, that the explanation is in terms of the X variables, that is, the actual values of trend, season, and the NBER index.

Consequently, the equation's ability to project future variation depends largely upon the ability to project the underlying (independent) X variables. The seasonal X's are known since the school calendar remains basically the same each year. Also, the NBER leading index is known three quarters before its anticipated effect on enrollment. (Georgia weekly hours worked gives a four quarter lead, but the data is not as universally available.) The trend value, however, is not known for future periods. While the trend path may be intuitively estimated from population trends and other exogenous factors, this estimate becomes a basic assumption for any projection made by such an equation.

For short periods of three or four quarters it seems reasonable to make the simplest assumption-- that the present trend will continue. Given the trend assumption and NBER values three quarters in advance, the equation should do a fair job of projecting enrollment variation several quarters in advance.

As an example, separate equations are estimated for each school and division for the 1971-76 period. NBER and appropriate seasonal values for the winter, spring, and summer quarters 1977 are then used in the equations to obtain the corresponding projections. The school projections are summed to obtain short-run projections for total credit hour enrollment.

The projections assume present patterns will continue. An incorrect projection singles out a division where this assumption bears reexamination.

USE OF EXPLANATORY EQUATION FOR SHORT-TERM CREDIT HOUR PROJECTIONS

School	Equation (1971-1976)	Percent Explained (R^2)	1977 Projected Values[4] Winter	(Actual)	Spring	Summer
Allied Health						
Upper Div. Hours	= 510 + 60.7(Trend)[1] + 204(Winter)[2] + 188(Spring) - 1321(Summer) + 8.0(NBER)[3]	.939	3112*	(3293)	3167	1731
Lower Div. Hours	= 557 + 38.7(Trend) + 304(Winter) + 33(Spring) - 1476(Summer) + 6.6(NBER)	.953	2578	(2537)	2354	894
Arts & Sciences						
Graduate Hours	= 8237 + 8.7(Trend) + 118(Winter) + 49(Spring) + 1043(Summer) - 4.2(NBER)	.376	8029	(7371)	7964	8960
Upper Div. Hours	= 42542 - 304.1(Trend) + 381(Winter) + 829(Spring) - 8447(Summer) - 118.0(NBER)	.945	21144	(22080)	21146	11388
Lower Div. Hours	= 87429 - 50.2(Trend) - 3719(Winter) - 8977(Spring) - 29382(Summer) - 273.8(NBER)	.974	48248	(53480)	42612	21746
Business Administration						
Graduate Hours	= 23100 + 207.3(Trend) + 444(Winter) - 346(Spring) - 3838(Summer) - 91.7(NBER)	.957	16822	(16488)	16129	12706
Upper Div. Hours	= 22698 + 378.8(Trend) + 66(Winter) - 196(Spring) - 8368(Summer) - 15.9(NBER)	.953	29484	(27662)	29582	21765
Lower Div. Hours	= 7251 + 57.9(Trend) - 34(Winter) - 686(Spring) - 3734(Summer) + 8.8(NBER)	.927	9652	(9720)	9068	6091
Education						
Graduate Hours	= 4827 + 557.3(Trend) + 705(Winter) + 858(Spring) + 12247(Summer) + 97.1(NBER)	.926	30517	(27013)	31343	43436
Upper Div. Hours	= 12511 - 53.4(Trend) + 427(Winter) + 939(Spring) - 2422(Summer) - 27.5(NBER)	.813	8264	(7659)	8689	5234
Lower Div. Hours	= 3954 - 2.4(Trend) - 181(Winter) + 112(Spring) - 710(Summer) - 21.4(NBER)	.666	1037	(1687)	1301	445
Urban Life						
Graduate Hours	= 2045 - 20.8(Trend) + 38(Winter) - 116(Spring) - 407(Summer) - 6.3(NBER)	.889	816	(575)	633	312
Upper Div. Hours	= 1201 + 65.5(Trend) + 194(Winter) + 172(Spring) - 1068(Summer) + 5.7(NBER)	.885	3616	(2681)	3666	2501
Developmentel Studies	6831 + 178(Trend) - 283(Winter) - 1045(Spring) - 2672(Summer) - 51.3(NBER)	.977	4214	(4211)	3568	2043
		Projected Total Credit Hours	187533	(186457)	181222	139252
		Deans' Budget Projections (OIP 10-12-76)	182901		174729	121119

[1] Serial quarters 1-22 beginning Summer 1971.
[2] Value = 1 for corresponding season, otherwise = 0.
[3] National Bureau of Economic Research's Index of Leading Economic Indicators lagged 3 quarters.
[4] Values for trend periods are 23, 24, 25; and for NBER are 125.3, 126.5, and 128.0.
*Sample calculation, 510 + 60.7(23) + 204(1) + 188(0) + 1321(0) + 8.0(125.3) = 3112.

ROLL CALL
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